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CANADIAN GEOGRAPHICAL JOURNAL

JANUARY
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No. 1

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Photo by G. G. Woodhams

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The articles in this Journal are indexed in the *Reader's Guide to Periodical Literature* and the *Canadian Periodical Index* which may be found in any public library.

The British standard of spelling is adopted substantially as used by the Dominion Government and taught in most Canadian schools, the precise authority being the Oxford Dictionary as edited in 1936.

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A field of radish in bloom. Note the irrigation flume from which this seed crop was irrigated by means of furrows or ditches.!

The president of the British Columbia Seed Growers' Association standing in his fine field of onion seed at Vernon.

Small turnip plants wintering over outside in the Fraser Valley. This field yielded over 1,000 pounds of turnip seed per acre in 1942. Photograph taken in December, 1941.

VEGETABLE SEED GROWING IN BRITISH COLUMBIA

by **J. L. WEBSTER**

WHEN the war cut off the normally large annual export of seed from continental Europe there arose the prospect of an acute shortage of certain kinds of vegetable seeds—not only in Great Britain and Russia, but in Canada, the United States, South America, South Africa, and various other countries formerly dependent on seed from Europe.

It is toward this possible grave shortage of seed which would directly influence potential vital food supplies for Britain and her allies that the seed growers of British Columbia have been devoting their energy.

Vegetable Seed Aiding the War Effort

It is reported that, early in the war, onions were in such great demand and were so scarce in Great Britain that the occasional individual specimen was auctioned off or given as a novelty prize at some entertainment. To a lesser extent this shortage also applied to a few of the other common kinds of vegetables.

This picture was undoubtedly changed owing to the tremendous stimulus to home gardening in that country, and because British Columbia alone shipped, from 1941 to 1943, sufficient onion seed to Great Britain to plant an average of 10,000 acres of this vegetable each year—a potential crop of 100,000 tons of onions a year. In addition, there was shipped sufficient carrot seed for an annual sowing of 15,000 acres, radish seed for 20,000 acres and very considerable quantities of seed of parsnip, cauliflower, spinach, tomato, peas, beans, marrow, squash and lettuce.

A goodly proportion of the large British Columbian 1942 and 1943 seed crops were ear-marked for Russia. This, together with the large supplies being sent by the United States, have gone a long way toward ensuring the vegetable food supply of this valiant ally.

To-day British Columbia is producing more vegetable and field root seed than all the other provinces of Canada combined. British Columbia produces over 90 per cent of the onion, carrot, sugar beet and cauliflower seed, and the greater portion of lettuce, spinach, radish, parsnip, cabbage, tomato, cucumber and marrow seed.

Development of Seed Growing in British Columbia

Vegetable seed has been produced in British Columbia in considerable quantities for over 30 years. A flurry in seed production occurred toward the end of the last war (1917—19), but the lack of experience and equipment of seed growers, the shortage of pure seed stocks for planting and lack of appreciation of the fundamentals of seed growing and merchandizing made it impossible for British Columbia growers to meet the renewed heavy competition from the older established seed producing countries when the war was over. Nevertheless, it had been demonstrated that the climatic and soil conditions suited a great many of the vegetable seed crops, and, although seed growing lagged for a few years, a more permanent steady growth was evidenced by 1931. Gradually, as certain growers acquired experience and equipment, a slow but steady increase was noted. The advent of the war caused an additional stimulus, and, from 1939 until the present year, the volume of vegetable seed produced increased rapidly. In 1941 production was valued at just short of half a million dollars, and, for 1942, the crop (although reduced by 30 to 40 per cent by unusual July weather) amounted to nearly $600,000.00. The value of British Columbia vegetable and field root seed for 1943 reached a total of $930,000.00, and present crop prospects indicate that 1944 production may exceed $1,500,000.00 in value. These values and estimates are based on actual returns or contract values which are very considerably below the wholesale value and, in the "small" or garden seeds, would represent only a fraction of the retail selling price. Possibly when this seed reaches the actual gardener or farmer its value would be between $3,000,000.00 and $4,000,000.00.

British Columbia Has a Favourable Climate for Vegetable Seed Crops.

British Columbia is a large province, extending from the 49th parallel to the Yukon boundary, bordered by the warm Pacific on the west and divided into many valleys by the several mountain ranges which run north and south.

There are, therefore, actually several climatic zones in British Columbia, but in so far as vegetable seed production is concerned, the southern coastal zone and the semi-arid southern interior zone are the most important. The central and north-central zones have a climate not unlike that of the Prairie Provinces with a short frost-free season, and, as yet, have been relatively unimportant in the production of vegetable seed although producing some seed of spinach, turnip and cabbage.

The Fraser Valley and southern part of Vancouver Island are the most important agricultural areas in the coast zone. This zone has a moderate winter climate and is usually free from killing frosts until well on in November. From 30 to 60 inches of precipitation (almost entirely rainfall) occurs each year, the local areas varying, apparently, as to their position with regard to the mountains. The seed crops best suited to the Coast are cabbage, cauliflower, rutabaga or swede, turnip, peas, beet, mangel, chard, kale, spinach and leek. Certain locations in this moderate coast zone have one great advantage in that a number of the biennial vegetable crops such as turnips, sugar beets, swiss chard, cabbage and kale can be over-wintered in the field without the need for storing and transplanting as in other parts of Canada. This is of immense saving in labour, and hence the cost of production is lower than in any other part of Canada.

The southern interior just over the Coast Range from the Pacific is hot and dry in summer, and the land must be irrigated for best results. The annual precipitation here varies from 7 to 18 inches. The winters are colder but some influence from the Pacific is felt and temperatures do not go as low as farther inland. Certain large lakes also have an influence on local areas. This semi-dry, warm section is quite free from serious diseases and is very well suited to such seed crops as carrot, onion, beans, corn, peas, tomato, pepper, lettuce, radish, cucumber, melon, etc. It has also been found that some of the crops generally recommended for the coast zone will do quite well in certain locations in the interior, although it has not been found possible to over-winter many of the biennial crops without storing and transplanting. The Okanagan and Thompson Valleys, the Grand Forks Valley and the Kootenay district including the fertile Creston flats, are the most important districts in the southern interior.

Altogether, the several climatic zones in British Columbia offer greater opportunity for production of a greater range of kinds and varieties of seed than many of the other provinces. The climate, although further north and therefore cooler than California and Oregon, bears in many respects the same relation to the rest of Canada as do those States to the United States as a whole.

Growing the Seed Crops

Seed growing, and in particular vegetable seed growing, exclusive of peas, beans and corn, is a highly specialized branch of farming; in fact it may be considered a branch of horticulture. Although there are cases where farmers have made a profit the first year, these are exceptions. Usually several years of experience, together with a keen interest to tide the grower over many inevitable disappointments, are required before success can be achieved.

The main vegetable seed crops may be divided into annuals and biennials, the former requiring one year to produce seed and the latter two years. The following are the more important kinds so grouped and also arranged according to their botanical family.

Family	*Annuals*	*Family*	*Biennials*
CRUCIFERAE	Radish	CRUCIFERAE	Cabbage
	Mustard		Cauliflower
			Brocoli
CUCURBITACEAE	Cucumber		Brussel Sprouts
	Melon		Kale
	Marrow		Swede Turnip
	Pumpkin		Turnip
	Squash		
	Gourds	CHENOPODIACEAE	Garden Beet
			Sugar Beet
LEGUMINOSAE	Peas		Mangel
	Beans		Swiss Chard
SOLANACEAE	Tomato	LILIACEAE	Onion
	Pepper		Leek
	Eggplant		
		UMBELLIFERAE	Carrot
COMPOSITAE	Lettuce		Parsnip
	Endive		Celery
	Salsify		Parsley
CHENOPODIACEAE	Spinach		
ZEA	Corn		

The above classification may serve to clarify the inter-relationships of the principle kinds of vegetables when grown for seed.

With the biennials, the roots, bulbs or heads are either stored over winter and

Right:—A field of lettuce for seed being grown on contract for a British seed firm.

Left:—Setting out an onion seed field. The onion bulbs are spaced three to four inches in rows three feet apart.

Above:—The provincial horticulturist discussing an onion seed pollination problem with a leading grower in the Grand Forks district.

Right:—Harvesting a crop of mangel seed on Vancouver Island.

replanted the following spring or, in the milder districts, allowed to remain outside in the field. In the second year the plants bolt for seed.

The annuals are seeded in the spring. The members of the solanaceae family and some varieties of lettuce are sown under glass and later transplanted. The hardier types such as peas, radishes and spinach are usually sown directly in the field as early as possible, while other tender kinds are seeded in the field about the middle of May or according to the average frost dates in the given district.

At present certain local areas in the interior are becoming noted as especially suited to onions and carrots; other areas to peas, another to beans, while some crops have been found to do equally well in all districts. At the Coast, cauliflower and cabbage do especially well on the southern tip of Vancouver Island, sugar beets in the Fraser Valley, and so on. Soil, as well as climate, has a great deal to do with the adaptability of the crop to the local area.

Because of the great number of kinds of vegetables, it is impossible in this brief article to give a detailed description of the actual procedure necessary to produce a seed crop. Some of the crops are comparatively easily grown, such as peas, beans, spinach and radish. These crops are seeded in the field and require only the usual cultivation, irrigation, etc., required for any crop. In addition, roguing (removal of off-types) is necessary to ensure high grade seed. The harvesting, drying and threshing are not difficult providing the weather is favourable.

Annuals like cucumber, melons and tomatoes although easily grown are difficult and exacting when it comes to removal of the seed, fermenting, washing and drying. For large acreages a special vine seed thresher is used, but for limited quantities the wet seed and pulp is "spooned" out by hand. The pulp and seed must be fermented for several days in order to free the seed from its gelatinous covering. Barrels or tanks are used for this purpose. The fermented mass is then poured into a special washing flume or current box where the seed is washed free from the pulp. As this work has to be done in the late fall the wet seed has to be dried in a specially constructed drier.

With the biennials, the roots of parsnip, sugar beet and turnip are grown, and, at the Coast, left to winter in the field. Seed of turnips and sugar beet are sown in August, parsnip in the spring. In the interior the roots are usually stored although parsnip will winter without injury. Carrots, onions and beets are crops which are stored both at the Coast and in the interior. Proper storage is important and a new non-ventilated type pit is proving most satisfactory for roots. Onions, however, have to be kept in a dry well-ventilated building.

The transplanting of the roots or bulbs in the spring has to be done rapidly and economically. The mode of planting including spacing, depth or coverage, etc., varies with the kind and variety.

Cabbage, another biennial, may be handled either by producing the mature cabbage head, storing and transplanting the following spring, or by growing an immature or "loose" head and allowing the plants to remain in the field over winter. The former method is necessary in the interior districts and the latter method is usually followed at the Coast.

All the plants of the above seed crops with the exception of onions are usually cut or pulled by hand. Onion seed heads are picked as the seed ripens. Sugar beet, turnip and swiss chard may be cut with a mower. Usually from one to three weeks are necessary to dry the crops in the field. Onions and leek heads are dried under cover and take considerably longer. After drying, threshing may be accomplished with a grain separator, thresher-combine or home-made thresher. Small lots are often flailed by hand.

This review covers only very briefly some of the general procedure followed in seed growing. Further detailed and exact knowledge is necessary for the successful growing and handling of each crop. Bulletins dealing with the more important vegetable seed crops have been made available to seed growers by the Provincial Department of Agriculture. It has been found, however, that much of the technique necessary for success can only be acquired by experience.

Equipment Required by the Seed Grower

Very small lots of seed may be grown, threshed, cleaned, etc., by using garden tools for cultivation, a flail for threshing, and hand screens and winnowing for cleaning.

For the growing of commercial acreages considerable equipment is necessary. In

addition to the regular farm implements, the following are usually required: special seeder, row cultivators, adapted thresher or combine, and a fanning mill type seed cleaner equipped with proper sized screens. Also, for practically all seed crops, a good sized barn with a tight floor is necessary, and drying trays are needed for onion, leek and some other crops. For vine and tomato seed crops a special vine seed thresher, fermenting tanks, washing flumes and an artificial drier are essential. Carrot seed growers must have a scarifier; beet seed growers need a special cleaner known as a beet stemmer or draper, and corn seed growers require a special corn drier and sheller.

There are now more than 75 seed cleaning machines operating on vegetable seed in the province. Most of the larger seed growers have their own cleaner while the others have their seed cleaned at central co-operative cleaning plants or by the seed firms with whom the crop is contracted. Central cleaning plants are fully equipped with large type cleaners and all the special equipment necessary including gravity mills, spiral cleaners, conveyers, elevators, mixing tanks, etc., and are able to make difficult separations to process or complete the cleaning of all types of seed.

Quality in Seed Is an Important Factor.

Officials of the Provincial and Dominion Departments of Agriculture have long recognized the advantages offered in this province for the production of high quality seed of many kinds and varieties of vegetables. They realized that the future success and permanency of a seed growing industry would be largely dependent on the quality of seed produced and have made every effort to guide the industry toward this goal.

The term "quality" as applied to vegetable seed has two distinct phases or divisions. It may refer (1) to the potential inherited characters of the seed, only expressed in purity and merit of the crop

Top to bottom:—

A "gravity" type seed cleaner at a modern British Columbia seed cleaning plant. This type of cleaner is used for making separations which are impossible with the fanning mill type cleaner.

A close-up of the threshing of sugar beet seed in the Fraser Valley with a combine. Nearly 200 tons of this seed were produced in British Columbia in 1943.

Threshing carrot seed from the stook with a thresher combine at Kelowna.

The winner of the 1936 world's wheat championship standing in the corner of his field of swede turnip seed at Ladner.

produced, and (2) to the general cleanliness or the physical state of the seed with regard to percentage of germination, freedom from inert matter and weed seeds, and freedom from disease.

The first factor is the most important and every effort is being made to ensure the purity and merit of strain of the many varieties and kinds of vegetable seed being produced in this province. The first step toward ensuring purity of strain in the seed to be produced is to obtain the best initial or basic pure seed for planting the seed crop. Various strains of a given variety, maintained by seedsmen, experimental stations and others, are tested in trial grounds and in commercial plantings, the best of which are retained for seed production. Thorough roguing of off-type plants, roots or bulbs is carried out to maintain or improve these stocks. Those having sufficient merit are recorded with the Canadian Seed Growers' Association at Ottawa, and seed may be sealed under the Registered seal of the Association if the rules and regulations governing growing, harvesting, cleaning, and grading are complied with. Certified seed is usually seed produced from Registered seed and sealed according to regulations under the Seed Act.

Part of the second so-called division of the term "quality", namely germination and general cleanliness of the seed, is largely a mechanical matter. The seed crop is threshed and then cleaned up to a marketable grade by one or more types of cleaning mills. Soil and climatic conditions will influence germination, and weedy crops may contain weed seeds difficult to remove, but the matter nevertheless is largely dependent on the thoroughness of "processing" for market, which is chiefly cleaning.

The disease factor emerges at this point and assumes considerable importance. The chief concern of the seed grower is with seed-borne diseases. This refers to fungus and bacterial organisms which may be carried on or in the seed and become established in the growing vegetable crop, often resulting in serious losses. Surveys and investigational work carried on by the Department of Plant Pathology over the past three years have shown that seed produced in British Columbia is particularly free from disease infection. Certain recommendations in the matter of roguing and seed treatment have been made in cases where seed-borne diseases were evident.

Assistance Given by Agricultural Officials and Seed Firms

The Provincial Seed Committee, composed of officials directly interested in the welfare of the seed industry, has done valuable work in matters pertaining to markets, stocks of pure seed, advisory work on registration and certification, and allocation of varieties and kinds to various districts, and its secretary deals with the Canadian Seed Growers' Association and Agricultural Supplies Board (Seed Administration) at Ottawa.

In 1936 the "Seed Growers' Protection Act" was passed at the request of Growers' Committees in various districts. This Act and regulations thereunder prevents indiscriminate planting of crops which would cross-pollinate with, and contaminate, valuable seed crops in a certain defined local area. This legislation has been of inestimable value in the maintenance of high quality seed, particularly in districts where a number of farmers are producing seed within a small local area.

The appointment of an experienced seed specialist was made by the Provincial Department of Agriculture in April, 1940. His duties have been to assist seed growers in their many and varied problems and to investigate opportunities for production in the various areas. In addition the Provincial District Agricultural and Horticultural Inspectors give all assistance possible to seed growers in their respective districts.

In 1938, a Plant Products Division Office and Laboratory of the Dominion Department of Agriculture was established in Vancouver. Its principle duties are the testing and grading of seed together with the inspection of Registered and Certified seed grown in the province. This office has rendered a valuable service to seed growers, both from the standpoint of grading their seed and from the advisory work done with growers in the matter of pure stocks of seed.

The Experimental Farm, at Ottawa, and the Experimental Stations at Summerland in the Okanagan Valley, and Saanichton on Vancouver Island, have been engaged in breeding and selection work with certain kinds and varieties with the view to developing pure lines to be used as "foundation" or basic stocks by seed growers. Latterly these stations have commenced certain experiments on other problems connected with seed production

in British Columbia. The Experimental Station at Summerland maintains a trial ground for melons, onions, tomatoes, corn and other heat-loving crops.

The University of British Columbia maintains a trial ground where some two hundred strains of seed are grown for the purpose of study and comparison of the various stocks being grown by British Columbia seed growers, as well as a considerable number obtained from various sources.

Marketing the Seed

The seed grower receives only a small portion of the postpaid price of packet seed. This may be explained by the fact that with many kinds of seed, it actually costs more to market seed than it does to produce it. Any one who contemplates growing seed should keep this fact firmly in mind and should not be lured into seed growing with the expectation that anything approaching retail or even wholesale prices could be obtained.

Vegetable seed is almost entirely grown for seed contracting firms or seed houses, on a contract basis. It would be impossible for an individual grower or farmer, no matter how efficient, to produce seed of a sufficient range of the many kinds and varieties in order to successfully conduct a retail or wholesale seed business. Usually special contracting firms allocate acreages to various farmers and supply the stock seed or basic seed from which the crop must be grown. The firm usually limits the acreage or the amount and takes the entire crop. Contract prices, although seemingly small in comparison with retail prices, are for quantity production and are usually sufficiently high for the grower to realize as much or more than from other farm crops. However, considerably more skill is required than for most farm crops and there is often more chance of crop failure.

The stimulus to home gardening in Canada and the United States has greatly increased the local demand for seed. More home gardening is the result of higher prices for market vegetables, which, in turn, has been brought about by lack of labour in Canada and the United States, shortage of imported vegetables, need for increase in production of more essential crops for canneries, dehydrators, etc., and the overall higher costs of labour and equipment. In addition the export seed market has been exceptionally good, due, as previously pointed out, to the need for seed in Great Britain and Russia.

The Future of Seed Growing in British Columbia

Any industry based on export markets will succeed only if it can compete with other countries on a basis of a quality product at prices which are competitive in the world markets.

The vegetable seed industry, a small one when compared to other branches of agriculture, is now firmly established in British Columbia. Other provinces are making progress and are producing considerable quantities, but the climate in this province appears better suited to certain kinds. It is expected that competition in price and quality can be met in those crops to which the climate and soil is best suited. This is further emphasized when it is considered that there are now many seed growers with experience and equipment who will continue to grow seed when prices are lower and orders are reduced after the war emergency is over.

Mistakes have been made by a few growers marketing seed which has not been of the highest quality, and by others who have only partially filled their contracts or orders at a time when seed has been sorely needed by the seed houses. These factors work against the industry in that the large seed houses and other buyers lose confidence in the growers' ability to produce and deliver the goods. However, in the year 1943 and 1944, the increased acreage set out in British Columbia together with the added experience of seed growers is making possible earlier and more complete deliveries of seed contracts accepted. In general the quality of the seed has been better, and the range of kinds and varieties has been more complete.

In general it is believed that the production of some kinds and varieties of vegetable seed crops will not be as profitable when the war emergency is over as prices and markets will undoubtedly be greatly reduced. Nevertheless, if quality is safeguarded and cost of production lowered, British Columbia should retain a goodly portion of the Canadian market and a share of the competitive world market.

Left:—Pitching camp.

Above:—The trapper is rewarded for his patience.

Above:—The pelts are hung out on stretchers to dry.

Right:—Each trapper's pelts are counted and given a preliminary grading.

Left:—Furs are transported to The Pas in the departmental barge.

Fur Rehabilitation in Northern Manitoba

by **D. M. STEPHENS**

THE fur trade has had an extremely important part to play in the history and economic development of Manitoba. It was in search of fur that the first explorers came. The first lines of communication and transportation were pioneered to serve the fur trade. Many of Manitoba's most important towns and cities came to occupy sites that were originally chosen by the fur traders for their tiny trading posts.

With the rush of settlement which followed the completion of the Trans-Continental Railway, the fur trade came to occupy a place of relatively lessening importance in the economy of the region and in the attention which it received in matters of public policy.

The mere size of this new country had seemed overwhelming. It is possibly not surprising, but it is none the less unfortunate that the natural resources of this region came to be regarded as limitless and inexhaustible. This conception of natural resources continued far too long, and people thought and spoke too glibly in terms of "never having scratched the surface" even long after the roots had been rather badly damaged. Like many other resources wild fur suffered from this mistaken philosophy of inexhaustible plenty.

To a certain extent also the fur industry became a casualty of divided jurisdiction. Since the formation of the province in 1870 fur had been a matter of provincial jurisdiction. For sixty years after that date, however, the forests, Dominion Crown Lands, water powers and water rights, as well as fisheries and mineral rights had been administered by various departments of the Dominion Government. Thus, while the province had been nominally in control of fur, the Dominion had been in complete control of policy and administration with respect to lands, forests and waters, the most vital elements of environment upon which fur must depend. It was not until July 15th, 1930, when the natural resources of Manitoba were transferred from the Dominion to provincial control, that all those rights necessary for a comprehensive fur rehabilitation programme were finally consolidated in one agency.

While fur rehabilitation involves many considerations, two aspects of the problem would appear to be fundamental. It is quite obvious that furbearers can be expected to flourish only under suitable conditions with respect to environment. It is equally obvious that an ideal habitat would be unproductive unless steps were taken to assure the presence of the necessary breeding stock. The two fundamental aspects of fur rehabilitation would therefore appear to be (1) the protection or improvement of habitat and (2) the protection, restocking or transplanting of the necessary breeding stock.

While these two considerations would probably be basic in any project of a fur rehabilitation programme, there are certain cases in which either might be primary and the other secondary. In Manitoba, for example, there are certain projects under the Government's fur rehabilitation programme in which conditions with respect to habitat are relatively satisfactory. In such instances the main emphasis has been placed upon the protection of breeding stock. This would apply particularly in certain large areas which are under development as registered traplines. In other instances conditions with respect to habitat were found to be so adverse that considerations with respect to breeding stock, important as they may be, were necessarily regarded as of secondary importance.

The Summerberry project, as well as similar subsequent developments on the Saskatchewan River delta near The Pas, is an example of fur rehabilitation projects wherein matters relating to the restoration and protection of habitat were of primary consideration.

The marsh lands of the Saskatchewan delta had long been widely known for the vast quantity of muskrat pelts they had once produced. As long ago as 1884 Dr. Otto J. Klotz, D.L.S., reported to the Dominion Government with respect to

reconnaissance surveys conducted in the area and stated in part:—

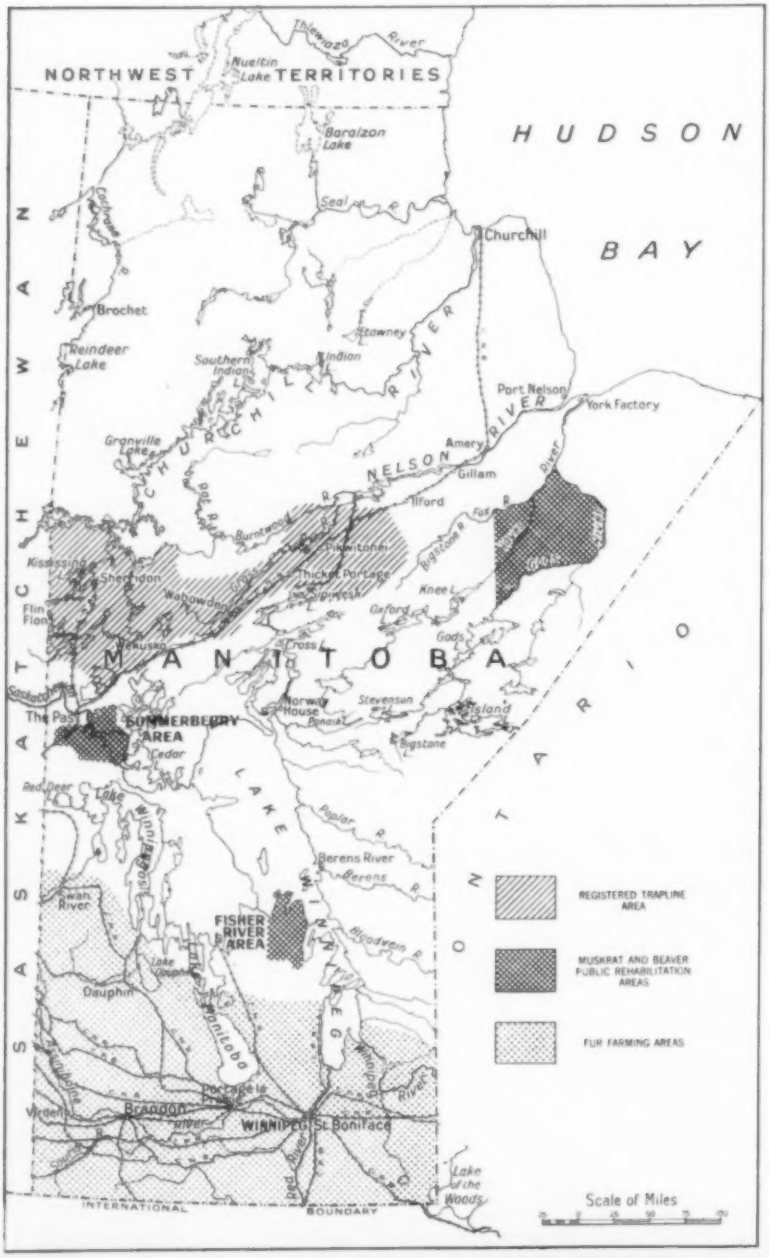
> "The whole of the country between the Sipanok Channel, Pasquia River and Cedar Lake is lake and marsh with the exception of the stony ridge already alluded to, (upon which the town of The Pas is situated). This vast area is the home of the musquash or muskrat, the annual catch being about 200,000."

In 1902 it was estimated that upwards of 600,000 muskrat pelts were taken from the marsh lands of the delta. In 1912 Mr. T. H. Dunn, O.L.S., C.E., in reporting upon surveys conducted in the area, complained of difficulties encountered in securing men and went on to state:—

> ". . . when the work was taken up again it was impossible to procure men to take the place of those who were lost. We did succeed in getting a couple of Indians for a few days at a time but the fall hunt had commenced and the lure was too strong to be resisted . . .."

and later in the same report:—

> "This caused me great anxiety as I knew no Indians could be secured for more than a day or two at most, as they were all out on the hunt making from $4. to $20. per day by the sale of muskrat skins."



Canadian Geographical Journal map

From 600,000 pelts in 1902 the catch had fallen to 300,000 in 1910, 40,000 in 1926 and to approximately 10,000 by 1930. With the onset of drought conditions in the early 1930's, a major portion of the marsh became a barren waste of dried-out lake beds and dead reed banks. The same conditions which had brought many agricultural regions of the prairies to the verge of ruin were to climax the deterioration of what had been one of the great muskrat producing areas of the continent. At this period what few muskrats there were remaining were hard-pressed for feed and in only few instances were there sufficient depths of water to prevent freezing to the bottom—always a severe hazard in northern marshes. If the marshes of the Saskatchewan delta were to be restored to their former productiveness, it was obvious that conditions with respect to habitat must be improved and that an adequate supply of water was the primary requirement.

In that portion of the delta which lies to the east of The Pas the Saskatchewan River breaks into several channels. The highest points of land throughout the area are to be

No fur prospects here in 1935

What sound water conservation can do—and did.

found along the banks of these numerous streams where natural dykes or levees had been built up through the heavier deposition of river-borne silt. During periods of high water the river had occasionally over-topped these banks to fill the various ponds and marshes beyond the natural levees. One of the numerous questions to be determined in the consideration of water supply was whether, by the use of canals cut through the natural levees, water could be carried to the marshes in sufficient quantities to assure adequate depths. To determine this point and secure other data upon which a plan of water development might be based, extensive surveys were conducted during the winters of 1934-35 and 1935-36.

The results of the surveys were considered to be relatively favourable and a portion of the delta comprising approximately 140,000 acres, lying between the Saskatchewan River proper and two larger branches, the Summerberry and the Head Rivers, was selected for experimental development. This was the original Summerberry project.

In the preparation of the final plans the fullest possible advantage was taken of the experience which had been gained on several private muskrat ranches which were under lease from the Government. One of the largest of these, the Lamb ranch, was in the Saskatchewan River delta where conditions were very similar to those obtaining on the Summerberry. While the actual plans were being developed a close study was made of experience gained in muskrat rehabilitation elsewhere. A senior official of the Department spent considerable time in Louisiana studying the methods in use on the large fur projects in that state.

The final plan evolved called for the excavation of numerous canals, usually with control gates to prevent the loss of water from the marsh through the reversal of flow during low river stages; the construction of several miles of dyke and numerous other dams. The structures ranged from relatively short dykes and ditches to the building of a dam 470 feet long and 12 feet wide and which took some 30 men a month and a half to build.

Actual construction work started in June, 1936. Since the project had been authorized under a Dominion-Provincial unemployment relief agreement, the work was laid out in such a manner as to provide as much local employment as possible. Practically all labour was selected from needy trappers whose livelihood had previously come from the trapping of muskrats in the marshes which were now to be restored. Eight construction camps were established and approximately one hundred men employed. The equipment used varied from modern diesel-powered draglines, pile drivers and power-drag scrapers to the shovel and stretcher. The latter device, canvass stretched between two poles and carried by two men, was used in moving earth in the softer portions of the marsh and was borrowed from China where it had been used for centuries on the Yangtze dykes. During the 1936 construction season the work was concentrated on closing all outlets possible and in excavating the more important canals. During the summer of 1937 after a very large volume of water had been taken in through the canals, work proceeded with the construction of timber control dams, additional dyking and a number of cabins for the permanent patrol staff. By November that year 21 dams and 10 dykes had been constructed, 13 canals had been excavated and 5 patrol cabins built. Total expenditures on the construction work amounted to $107,453.00 and 16,429 man days of

employment had been afforded.

One of the remarkable features of marsh rehabilitation work is the rapidity with which luxuriant marsh vegetation becomes re-established once the water levels are restored and regulated. The first large inflow of water was taken from the river through the new structures during April, 1937, and was the result of relatively local run-off. By the fall of 1937, however, many species of marsh plants were to be found in abundance in many parts of the marsh. During the 1938 open water season, the control gates were opened for only a short period during April but many thousands of acre-feet of water were added to the marsh during the latter part of June, July and early August when the river rose to relatively high stages as a result of heavier run-off from the eastern slope of the Rocky Mountains.

It is estimated that there were less than 5,000 muskrats on the entire project at the time construction work commenced in the early summer of 1936. By the fall of 1938 a careful census revealed that there were 12,197 muskrat houses in the area which were estimated to contain approximately 72,000 muskrats. By 1939 the census revealed over 32,000 houses, representing an estimated muskrat population of approximately 200,000 muskrats, and it was decided that the first crop should be taken during the spring of 1940.

In deciding upon the arrangements for the first harvest several important criteria were to be satisfied. An adequate reserve of breeding stock must be protected. Trappers who had worked on the scheme and who had been denied access to the area during the rehabilitation period must be given first consideration. The fur should be handled and sold in such a manner as to provide the greatest possible financial return to the trapper; but at the same time it should be directed into the channels of the fur trade as quickly and directly as possible. The funds accruing to the trappers should be distributed in such a fashion as to provide the maximum of economic security throughout the year. Since certain annual expenditures were necessary for the maintenance and management of the project, sufficient governmental revenues should be obtained as to make the project self-sustaining and, if possible, liquidate the original investment in a reasonable period of time.

The regulations for the handling of the first crop were set by order-in-council passed under the authority of The Game and Fisheries Act. These regulations prohibited trapping except as expressly permitted, limited the number of muskrats to be taken by each permittee, and authorized the issuance of 400 special permits to trappers who could satisfactorily establish residence in The Pas area as of July 1st, 1936.

The order-in-council also set the trapping season from April 1st, 1940, to April 20th, 1940; limited the number of muskrats which each permit holder might take to 300; and authorized the Minister of Mines and Natural Resources for the province to enter into an agreement with each trapper covering the handling of his catch and the distribution of the monies realized therefrom.

In order to facilitate the taking of the annual census and to provide an adequate basis for the comparison of data obtained from year to year, the project had been divided into thirty-three zones. For administrative purposes it was decided to place an experienced trapper in charge of each zone. His duties would consist of supervising the trapping as well as the stretching and drying of pelts, assisting in the enforcement of the regulations and acting as general foreman over the trappers assigned to that particular zone. In lieu of wages for this additional work the head trapper was to be allowed to take some additional muskrat pelts over and above his allotted 300. Since a limited number of Treaty Indians were to be permitted to trap on the area and since the Indian Affairs Branch of the Dominion Department of Mines and Resources was to administer the funds accruing to Treaty Indians, three forms of agreement were necessary, one for Treaty Indians, one for head trappers and a further form for the balance of the trappers. Under the terms of the agreement each trapper agreed—

1. That he would not trap more than 300 muskrats or use more than 75 traps.
2. That he would abide by the provisions of The Game and Fisheries Act and any and all regulations made thereunder.
3. That he would restrict his trapping operations to the zone to which he was allotted.
4. That he would deliver his pelts to a representative of the department at a control point in the area.
5. That he would consent to the sale of his pelts either by public auction or private sale.

6. That out of the monies realized from the sale there should be deducted—
   (*a*) 20 per cent to cover the department's revenue,
   (*b*) expenses incurred in handling the sale,
   (*c*) a sum up to $40.00 to cover assignments in favour of traders who had supplied the trapper with the necessary outfit to go into the area,

   and that the balance should be made available to the trapper in monthly instalments.

7. That his special permit would be subject to immediate cancellation for breach of any of the regulations, and a further provision under which any trapper guilty of a breach of the regulations might be denied trapping privileges during subsequent years.

8. That if so instructed the trapper would use a portion of the funds in repairing his dwelling house, preparing and planting a garden, and generally for the betterment of himself and his family.

The next step was the selection of the trappers who would be permitted to trap in the area. The trappers selected fell into two groups—first, Treaty Indians and, secondly, non-Treaty trappers resident in The Pas area as of July 1st, 1936.

As the trappers applied for their permits the officials of the department at The Pas checked their qualifications and allotted them to different zones under a head trapper who was responsible for the enforcement of the regulations and the supervision of the actual trapping. In addition to the supervision by the head trapper the local game guardians also patrolled the area during the trapping season, and checked up on the drying and stretching of the pelts, etc.

The pelts were turned in at a control point where they were counted, given a preliminary grading, and placed in bags which were then sealed. A tag was attached to each bag which showed the name of the trapper and the number of pelts, together with a statement of the preliminary grading. The pelts were stored at the control points until break-up when they were transported to The Pas by the departmental barge, from where they were shipped to Winnipeg to be finally graded and later sold in graded lots by public auction.

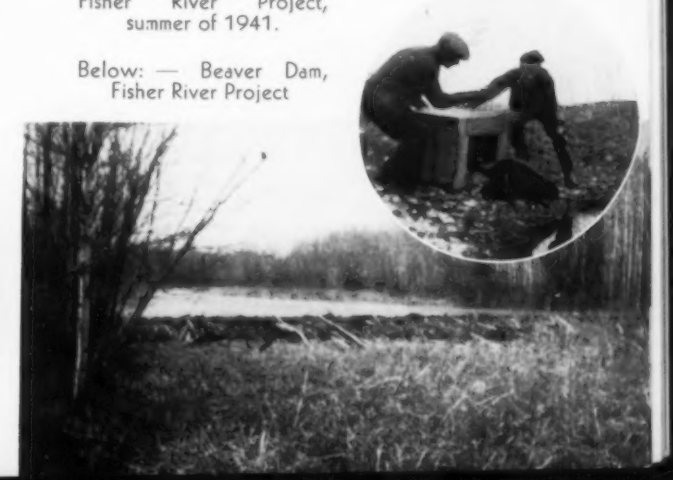
The sale attracted wide attention and was attended by approximately 150 buyers from all parts of the continent. The entire catch of 122,483 pelts had been handled without the loss of a single pelt and realized a total of $161,909.79. After royalties, risk insurance, transportation, selling costs and the 20 per cent revenue charge had been deducted, there remained $117,447.40 to be distributed amongst the 400 trappers, an average return of only slightly less than $300.00 to each of the trappers who had participated in the scheme. Revenues to the department, including royalties, amounted to $35,986.00 from the first crop.

The census taken in the fall of 1940, that is, following the first crop, indicated a substantial increase in the muskrats on the project. The 1939 census had revealed 32,369 houses, the 1940 count reached 46,027 houses.

Operating under regulations which were very similar to those in effect in 1940, the department proceeded with arrangements for a still larger crop in 1941. During that year 757 trappers harvested 191,562 pelts

Inset:—Liberating beaver—Fisher River Project, summer of 1941.

Below: — Beaver Dam, Fisher River Project



Muskrats at home again in 1940

Left:—Aerial view, Red Rock Canal, nearing completion

Below:—Trapper counting his pelts.

Below:—Muskrat houses are dotted throughout this region.

Below:—Baptizing Creek Control Dam.

Left:—Little Fish Lake Dam, October

Right:—Pullover Dam

Left:—Rat Hunting Canal

Right:—Red Rock Dam

Above:—Construction work in full swing.

Right:—Completing a canal.

which were sold for $361,179.43. Of this total the trappers received $235,006.80, while departmental revenues, including royalties, amounted to $74,430.30.

In addition to the amount paid to trappers out of the 1941 crop, $36,912.03 was put into a special fund from which distribution was to be made in the event of a subsequent crop failure.

As a result of extremely low flows on the Saskatchewan River in 1940, and again in 1941 when the river dropped to the lowest summer stages on record, marsh conditions deteriorated severely by the late fall of 1941. The census that year revealed but 8,331 houses. Having regard to the fact that the 50,000 muskrats then on the marsh would approximate if not exceed its greatly reduced carrying capacity and also to the fact that certain zones on subsequent adjacent projects had also deteriorated and were overcrowded, a limited crop of approximately 39,000 pelts was taken in the spring of 1942. In that year 235 trappers harvested 38,899 pelts from which the gross return was $80,325.19. The trappers' share amounted to $63,736.88, while departmental revenues were reduced to $13,376.49.

During the summer of 1942 the project benefited from the greatly increased flows of the Saskatchewan River. It was possible during that summer to operate the intake canals through the greater part of June and the entire months of July and August, whereas inflow during 1941 had been limited to a five-day period in April. As a result of the greatly increased carrying capacity of the marsh which resulted from the heavy 1942 intake, it was decided that the occupants of the 7,974 houses which were revealed by the 1942 census, should be given a free chance to multiply during 1943. The project was therefore given a complete rest or "summer fallowed" in 1943 when the full amount of the crop insurance fund was distributed.

The returns from the 1943 census on the Summerberry and adjacent projects indicated a muskrat population in excess of 300,000. During April, 1944, 785 trappers harvested a crop of 204,779 pelts, which were sold on June 15th for $469,268.10. Of this total the trappers will receive $358,904.65, while departmental revenues including royalties will amount to $96,663.35.

The developed areas of the Saskatchewan River delta in Manitoba have already yielded 557,773 pelts from which total returns of $1,072,682.51 have been received. Of this total $814,007.96 has been or will be distributed to trappers. Departmental revenues have benefited to the extent of $220,456.14, considerably more than the total of all expenditures on the projects.

There is probably no feature of the Summerberry project which has won more general approval, particularly amongst the trappers concerned, than the method by which the trappers' returns were distributed. At the outset the department realized that, without some form of assistance, few trappers would be able to secure the necessary outfit and grubstake to permit them to proceed with trapping. It was therefore arranged that a grubstake, not exceeding $40.00, should be recognized as a first charge against each trapper's share of the crop. Under this arrangement the merchants and traders of the district readily made the necessary advances. There was also an unavoidable delay between the end of the trapping operations and the sale of the pelts. During this period an interim payment was made to the trappers. When the final returns had been computed, the amount accruing to each trapper, after provision had been made for the outfit allowance and interim payment, was paid in equal monthly instalments throughout the ensuing year.

In the Saskatchewan delta in the same general vicinity as the original Summerberry project, there are several other areas in various stages of development. Besides the Summerberry project the more important of these are the Two Island and Connolly projects. The Two Island project, situated a few miles north of the original Summerberry, comprises 160,000 acres and was developed in 1938 and 1939 under a Dominion-Provincial agreement providing for Dominion financing in return for participation in the trapping by Treaty Indians. This project, after showing a remarkable increase from 65 houses in 1938 to 11,400 in 1941, suffered severely from low water during the winter of 1941-42. The improvement of conditions on this area, resulting from increased flows on the Saskatchewan River during 1942, are reflected by the recent census which revealed approximately 4,500 houses, a four and one-half fold increase over the previous year. Conditions on the Connolly project, which is situated immediately west of the Summerberry, are most promising. Although at 100,000 acres it is slightly smaller than either of the other large developed areas, the 1943 census revealed 43,739 houses, almost 12,500 more than the 1943 census on the Summerberry and only 2,300 houses less than the

high census of 1940 on the latter.

Other fur rehabilitation projects which are in various stages of development in different parts of Manitoba include The Pasquia and Saskeram projects west of The Pas; the Corridor area, lying between the Summerberry and Two Island areas; the Netley and Delta projects, comprising the marsh areas immediately south of Lake Winnipeg and Lake Manitoba, respectively; and the Fisher River project, comprising an area of approximately 500,000 acres along the west side of Lake Winnipeg, which is being developed by the province under Dominion-Provincial agreement. The latter project, while large in extent, contains only a relatively small amount of potential muskrat marsh. In the three years since work commenced, however, the muskrats have increased from virtual depletion to the point where the 1943 census revealed 8,967 houses.

It is on the Fisher River project that one of the most interesting inter-relationships between fur-bearers, in this instance between the beaver and the muskrat, has been demonstrated. At the beginning of the rehabilitation period in 1941, there were no beaver on the entire area. During that summer six of these animals were live-trapped and transported by aeroplane to the new project. Shortly afterward they commenced construction of a dam at the outlet of Lake St. Patrick. This dam which is now 240 feet in length has raised the elevation of the upstream lakes and marshes by approximately three feet and has created near ideal conditions for muskrats. During this interval, and almost entirely as the result of the beaver dam, the muskrat house count on the areas affected has increased from 75 in 1941 to 1,914 in 1943. In other words, the net increase in muskrats as a result of the work of the beaver may be estimated at something in excess of 9,000.

It would be impossible to conclude a resume of fur rehabilitation in Manitoba without making at least brief mention of registered traplines. In the introductory paragraphs of this article it was stated that in certain areas the habitat for fur-bearers was relatively satisfactory and that in such cases the emphasis had been placed upon the protection of breeding stock. An early analysis of the causes of the decline in wild fur production had indicated the insidious influence of competitive trapping. Trappers were well aware that it was unwise to trap a marsh too closely or to take the last pair of beaver from a stream. They were, however, equally aware of the fact that another trapper following along later would probably trap whatever had been left. The trapper knew that conservation was profitable for the state. It was, however, unfortunately true that the course of wisdom offered little in the way of profit for the individual trapper. The fundamental purpose of the registered trapline system was to make conservation profitable to the trapper as well as to the community.

Under this programme two large areas have already been organized and several hundred traplines registered. With new and strong incentives toward conservation, trappers are constructing dams, building cabins, conserving vital breeding stock and generally improving their lines. With a new and increasing stake in the district, the registered trappers have become game guardians and fire rangers, who are putting their unparalleled knowledge and experience to work in placing the wild fur industry upon a sound basis of sustained yield.

In the field of fur rehabilitation in Manitoba a great deal remains to be done. Many of the projects mentioned earlier in this article have been only partially developed. Many other areas, as yet untouched, offer attractive opportunities for the application of modern methods of fur husbandry. The registered trapline system has already demonstrated that it would be generally applicable over the greater part of the wild fur territory in the province. Methods to obtain closer integration between trapping, fishing, tourist outfitting and guiding are being studied and applied to the advantage of all concerned. A very great deal of further research is required to unravel the complex inter-relationships between the various fur-bearers. In muskrat rehabilitation, as in related fields, it is important that there be developed more reliable methods for estimating the "carrying capacity" of various zones under varying conditions. The age-old "fur cycle" continues to challenge the research biologist and fur administrator alike. Many of the techniques of wild fur husbandry have been developed in the last decade. The next ten years should witness still greater advances. In the years that lie ahead, this new "applied science" will play an increasingly important role in the administration and development of our northern territories.

Top:—R. C. A. F. personnel and fishermen dragging heavy Diesel motor up hill.

Centre:—Muster parade of station personnel

Bottom:—Personnel *en route* to the station

Top right:—Party from the radio detachment travelling by dog-team to search for a possible landing area on the mainland in March, 1943.

R.C.A.F. OUTPOST

by **FLIGHT LIEUTENANT W. A. SHIELDS**

WHILE their flying comrades are carrying war to the enemy in the air, thousands of R.C.A.F. technicians are keeping lonely vigil at hundreds of isolated radio units in the far corners of the world. The following account of an air force detachment on the coast of Newfoundland is typical of their common lot, whether duty takes them to the Canadian Arctic or the steaming jungles of the African West Coast. They're all over the world at craggy islands off the north coast of Scotland, at the Burmese front, in Iceland, the Azores, Africa, Italy and Ceylon. Wherever they are, the nature of their responsibility cuts them off from civilization.

THIS is a brief record of one small band of Canadian radio technicians who, for nine wintry months, lived in bleak isolation to do an important job on behalf of R.C.A.F. air operations.

At a crucial time in the Battle of the Atlantic, these Canadians built and operated a radio station which proved a vital link in the chain of East Coast flying communications. After toiling from September, 1942, to June, 1943, on gale-lashed rock, hundreds of miles from civilization, they returned unheralded to their homes in Canada.

The need for radio coverage in a section of the North Atlantic was urgent; men and materials had to be transported on short notice, and enough buildings to house men and equipment had to be completed before winter set in. In September, 1942, a party of thirty men under Squadron Leader E. A. Kenny left Halifax by ship. Travelling by water, rail, road, and again by R.C.A.F. marine craft, they reached, more than a month later, a wind-swept, fog-bound, and treeless island off the coast of Newfoundland; a second party, including the construction crew, had arrived two weeks earlier with building materials and equipment.

All supplies had to be carried up steep rocky slopes rising three hundred feet above sea-level, or hauled up by hand on wooden stone-boats. Man-hauling heavy Diesel engines proved no mean task, even with the assistance of local fishermen. The contents of a keg of nails had to be split four ways and man-packed in bags before being carried over the three-quarter-mile distance to the construction site. In a blizzard, it took ten men to haul one 45-gallon drum of oil over the rocks. Eighty-five per cent of the freight was packed in on men's backs.

Strong winds were a constant draw-

back, blowing lumber and sheets of insulation all over the lot until they could be weighted down or placed under shelter. Storms ripped out power lines, and on one occasion left but a single antenna intact.

Water was the men's next problem. At first they got enough from small ponds but as the season advanced these froze solid. They then melted snow and ice in empty oil drums until there was sufficient snow underfoot to enable them to haul water by dog-team from a lake more than three miles away; this method was begun in January and supplied the camp all winter. From April to June they laboriously blasted a reservoir out of the rocks 100 yards from camp, from which the water ran down to the kitchen by gravity feed; melting snow and rain kept the 10,000-gallon reservoir filled.

In mid-December the group encountered its first severe blizzard, when an 86 m.p.h. gale whipped all the snow off the island into the sea. Storm-windows were carried away and chimneys blown down. It took two men to close a door and radio operators going on duty had to crawl half a mile on their hands and knees. Salt spray was flung 200 yards up on the rocks; when frozen, it was a good conductor of electricity and, where it "shorted", burned off cross arms on the pole lines. Terrain was so dangerous and gales so severe that station standing orders required that no one should leave camp alone.

Top to bottom:—

Airmen of the isolated R. C. A. F. radio detachment shown digging themselves out after a particularly heavy blizzard.

A general view of the living quarters as they appeared after a blizzard.

Until they were able to blast out a reservoir in the spring, the men obtained water for washing, cooking and drinking by melting snow and ice over stoves improvised from oil drums.

Every one on the station worked hard at the digging and blasting of a hole in the rock in order to create a reservoir which would provide a steady supply of drinking water. In the foreground is S/L E. A. Kenny, Commanding Officer, shovelling away with the rest.

Another safety rule stipulated that all airmen be back in camp by 5:30 p.m.

With the coming of winter, they grew friendlier to the inhospitable terrain. The commanding officer even produced an eulogy which began: "There is something really fascinating about the island on which we are located, and now, since the snow has come, . . . the panorama is a gorgeous scene"!

From the outset, hobbies and sports were encouraged. A radio officer was particularly proud of his home-made bread. The hills provided good ski-ing, snow-shoeing, and hiking. A fishing contest was announced for spring, with prizes for the largest trout and the best catch of ten; airmen were out practising their casting while snow was still on the ground. "Stories about the 'big one which got away' will be listened to, but in order to obtain a prize, the goods will have to be produced", the contest committee warned.

The task of keeping the radio station operating day and night was, however, the main pre-occupation. Native dog-teams afforded the only means of hauling fuel oil for the Diesel engines, and without them the little station would have been in desperate straits. They pulled in teams of eight, ate only fish or frozen seal-meat, fought a good deal, but were friendly with the airmen—and their services cost the R.C.A.F. five cents per day per dog. At one time, more than 300 dogs were hauling oil, carrying in excess of 900 drums over a difficult five-mile snow trail without mishap. They also hauled water, food, and mail, and, in event of serious illness, would have drawn the patient, over trails which only they could follow, to the nearest hospital.

Top to bottom:—

One of the airmen feeds the station's pet raven.

At times fresh meat was provided by seals, the livers of which were regarded by hungry airmen as a special delicacy.

F/O M. J. Redding was fond of baking home-made "isolation bread" in large round pans. He is seen here enjoying two or three giant slices of one of his loaves.

Left:—Fuel oil for the Diesel engines was drawn by dog-teams at a cost of five cents per day per dog. Usually only one 45-gallon drum was hauled at a time, although an exceptionally large and strong team could occasionally pull two drums. Right:—During the winter water was hauled in large cans by dogs.

In March, 1943, instructions to locate an emergency landing strip for aircraft were received. With three dog-teams and food for a week a scouting party found the level area described and returned within four days, having travelled 200 miles. (One day they covered a record 65 miles from sun-up to sun-down.) Two of the dogs foundered in hauling the sleds across slush seeping through ice and had to be abandoned.

With the coming of March, spirits soared. There were still icebergs, deep snow, and blizzards, but the men expected soon to see sunshine and open ocean. Moreover, they were getting nearer to the day of return to their homes in Canada.

The isolation hadn't proved as bad as feared at first. Waiting at Halifax, they had conjured up in their minds a prospect of months of monotony. At times it certainly had been dreary, with little else to look at but frozen ocean, snow, and the same faces day after day, but they had discovered that life was what they made it—as much so on the windswept wastes of Newfoundland as back in Canada. Organized games, outdoor exercise and constant preoccupation with new ideas for improving the station, its equipment, and the comfort of their quarters, had kept their minds alert and their bodies healthy. "After we'd adjusted ourselves to local living conditions, life was fairly tolerable", the C.O. summed it up.

A few, however, did not stand up as well. They showed lack of responsibility, became irritable to other airmen, insubordinate, argumentative, untidy, and forgetful. On his return to Halifax, the commanding

Oil and supplies were landed by small boats.

A general view of the Nissen huts

"Isolation"

officer reported that those who had volunteered for the posting seemed the least discontented. Married personnel worried more than single men, often as a result of tactless messages from home.

During nine months of complete isolation, realization was gained that the following were essential: good food, mail, outdoor exercise, co-operation among all ranks, and sympathetic understanding of one another's problems.

A relief party arrived in June, 1943, bringing fresh vegetables and meats, which the outgoing airmen hurriedly carried over the rocks to their mess. It took eight days to unload the vessel and break-in the new personnel, and then the "bushed" radio men headed joyously for leave in Canada. Four days later they landed at Halifax.

The commanding officer, in his fina message to those who shared the long isolation, thanked them for their co-operation, and added: "This closes another chapter in your fight for freedom. The personnel of this unit have been pioneers in outpost duty during the nine months in which they have been cut off from the outside world".

"Living under isolated conditions requires the greatest fortitude, perseverance and initiative in working out an existence which has suddenly been cut off from the many things of normal life. On the other hand, the experience will add not a little to our Air Force's knowledge of a region of which previously nothing was known except that we could pinpoint it on the map."

Spring break-up as seen near the isolated R. C. A. F. radio detachment. In the foreground is "slob" ice; farther from shore are large ice floes, and a ship in the open water. Note Atlantic fog and icebergs in the background.

Below:—Kilnsey Crag, Wharfedale—one of the wonders of the Yorkshire Dales

Above:—Remnants of the old Royal Forest of Bowland, Lancashire, which has been suggested as a national park for Britain.

Left:—Wensley—the pretty hamlet that has given Wensleydale its name.

Below:—Appletreewick—one of Wharfedale's charming villages

BRITAIN'S POST-WAR PLAYGROUNDS

by **ARTHUR GAUNT**

THOUGH the United Kingdom has not the geographical opportunity to establish national parks and reserves on the large scale adopted in Canada and other parts of the Empire, post-war planning has directed attention to the idea of providing Britain with several smaller but similar national playgrounds. England, Scotland, and Wales each come within the scope of the proposals, and various areas have been suggested as worth developing along this line.

England and Wales have for several years had a Standing Committee on National Parks (organized in connection with the Councils for the Preservation of England and Wales), a body whose aim is to promote this idea and advise on how it should be carried out. A collateral council for Scotland was established in 1942, and no fewer than thirty-three societies, each concerned in one way or another with outdoor pursuits and the preservation of Britain's rural amenities, are represented thereon.

The general objective of the national parks movement in Great Britain, as outlined by these bodies, is, first, that a sufficient number of extensive areas, carefully selected from the unspoilt wilder country, be strictly preserved and specifically run as national parks, and, secondly, that the remainder of this virgin country should be regarded as a reserve for further parks in the future, and that any developments of other kinds in those regions should be allowed only if essential in the public interest.

Britain's post-war planning schemes have been hailed as an opportunity to further these aims, and memoranda regarding the inclusion of national parks in such immediate peace-time plans have been put before Parliamentary Committees. In addition, Members of Parliament have put forward the special claims of their constituencies, or neighbouring areas, to be included in any plans for these national playgrounds.

The projects are partly a revival of suggestions made nearly fifteen years ago, for, in 1929, a Government Committee investigated the whole question, and, in 1931, they issued a favourable report. Unfortunately, the national financial crisis of that year necessitated shelving of the schemes. A revival of the claim for national playgrounds has been prompted not only by the opportunity which is afforded by post-war planning, but also by the revolutionary development of road travel, longer hours of leisure (in normal times) for most people, and a rapidly growing appreciation, among the masses, of the pleasure and health obtainable by visiting beautiful and unspoilt country.

Meanwhile, Great Britain has a strictly limited amount of unspoilt wild country, and there have been many encroachments upon it—for week-end cottages, new or improved motor roads, car parks, filling stations, road-houses, electric-power schemes, water-catchment, artillery and bombing grounds, mining, quarrying, and commercial afforestation.

Nevertheless, Great Britain's total area of approximately 100,000 square miles includes nearly 30,000 square miles of mountain, moorland, hill pasture, forest, heath, downland, and rugged coastline. Omitting small isolated regions unsuitable for the purpose, nearly one-quarter of the whole country has possibilities for national parks projects.

The area is considerably reduced, however, by the fact that some of the otherwise suitable regions are already somewhat despoiled, that they are not sufficiently accessible to town and city folk, and that the cost of turning them into national parks would probably be too high. The immediate aim of the organizations interested in these questions is to establish such retreats where they will serve the greatest number of people, while, at the same time, keeping an eye on other potential playgrounds that might be developed later.

Britain's projected national parks are not to be confused with her national *forestry* parks, though some of the latter do serve in the former capacity to a limited degree. A national forestry park, as conceived by the British authorities, is an extensive Forestry Commission property, primarily established and run for forestry purposes, but to which public access is allowed, and even encouraged.

Several national forestry parks exist already in Great Britain. The New Forest, in Hampshire, and the Forest of Dean,

in the neighbourhood of the Wye Valley on the Gloucestershire border, come in that class, both being Crown Lands controlled by the Forestry Commission. But such areas, in which preservation and public access are necessarily subservient to the requirements of timber production, are not substitutes for national parks.

The broad purpose of the national parks scheme is to organize the preservation and development of the projected playgrounds on a national basis. Though a great deal has been done to preserve "Beautiful Britain" by voluntary and local organizations, it is considered that the provision of effective national parks must be a national concern, supported financially by the Government. But areas already preserved by voluntary enterprise would form a satisfactory basis for these Government-financed parks.

Already, for instance, the National Trust owns, or has other protective interests in, some of the suggested areas. The English Lake District is the region most widely favoured as the first national park. Its 700 square miles include a very wide variety of scenery, and the area provides facilities for several types of outdoor recreation.

Altogether, fifteen lakes lie within boundaries of this area, together with mountains, crags, woodlands, passes, and historical relics. There are thus many opportunities for boating, fishing, climbing, riding, cycling, motoring, and walking.

To-day, the National Trust owns 14,000 acres of Lakeland and protects a further 15,000 acres by restrictive covenants. The Trust properties include Scafell Pike (3,210 feet high, the highest point in England), the whole of Buttermere Lake and Loweswater, numerous stretches of woodland, various viewpoints, and many treasured relics, such as the house where Wordsworth was born.

These national possessions, preserved from undesirable development, would form the nucleus of an excellent national park, and it is probable that the English Lake District will ultimately attain that status. As yet, however, it cannot claim that distinction, for the National Trust is not a Government-sponsored or Government-financed enterprise. It is officially designated a charity, and gets its properties and funds from benefactions, bequests, subscriptions, and public appeals.

Britain's varied coastline figures in the national parks projects, too—in some ways more insistently than the suggested inland parks, for the coastal stretches have already suffered much from undesirable development and restrictions on public access. Here again, however, the National Trust has done good work during the last 40 years, and some delightful stretches are now preserved against spoliation.

The Trust's properties on the Pembrokeshire coast, the most westerly county in Wales, are specially extensive. There are more than 4,000 acres either actually owned or protected in other ways by this body. The territories include clifflands and footpaths, vantage points and farmlands, and it is worth recording that United States interest assisted in enabling the people of Britain to become custodians of much of this magnificent stretch of varied coastal scenery, which has been suggested as another potential national park. Part of the money needed by the National Trust to acquire these properties was provided by the Pilgrim Trust, founded in 1930 through the generosity of Mr. E. S. Harkness, an American millionaire.

Attention has also been given, by both the National Trust and other interested bodies, to the question of establishing a national park in the Peak District of Derbyshire. Here, as in Lakeland, the appeal lies largely in the wide variety of unspoilt scenery. There are breezy hilltops, thickly wooded valleys, wild moorlands, mountain streams, peerless dales, famous rivers, mysterious caverns, old manor houses, and stately homes, together with numerous historic treasures.

Easily accessible from both Sheffield and Birmingham, and only little less so from Manchester, Stoke-on-Trent, and other industrial places in the Midlands and Northwest, the Peak District has indeed much to recommend it as a potential national playground. The name is something of a misnomer, for the region proper extends much beyond the 2,000-foot height marked on Ordnance Survey maps as "The Peak".

No other region in England, however, has been the subject of so much controversy in recent years as this part of the Pennine Range. Many rights-of-way and much common-land were removed from the public in the early years of the last century, when the Enclosure Awards greatly restricted public access. During the present century, much litigation has been necessary to restore some of the ancient privileges,

and access to some parts of the Peak District is still limited.

Nevertheless, thanks again to the National Trust, considerable tracts have been acquired for the public, especially in the neighbourhood of Dovedale, one of the areas most popular as a rambling region. This neighbourhood is said to be the "Happy Valley" of *Rasselas*, Dr. Johnson's most popular work. Another famous man of letters who loved Dovedale was Evelyn, the diarist, whose one-time property (Hanson Grange) still stands. The house was later the home of Nat Gould, the novelist. It is not surprising that the Peak District is regarded as one of the most important of England's future national parks.

Its historic treasures include Peveril Castle, founded by William the Conqueror but made more famous by Sir Walter Scott, and there is Haddon Hall, one of the best-preserved country seats in the kingdom. But for its scenic features alone, the proposed Peak District national park is outstanding.

The proposals fit into another scheme which has been mooted. It has been suggested that the Yorkshire Dales region be similarly preserved and developed as a national playground, and there is a further project to establish a 200-mile ramblers' "way" along the Pennines, from Derbyshire to Northumberland. Such a footpath would link the Peak District and the Yorkshire national parks. A Pennine Way Association has existed for several years to promote this idea, which aims at opening certain stretches of the Pennines that are now barred to ramblers, and establishing hostels at convenient points along the footpath.

Lancashire, which is widely but quite erroneously regarded as a completely industrialized county, will have a big national playground, if a suggestion put before Parliament some time ago is eventually adopted. The northern half of the county includes the Forest of Bowland, a one-time royal chase which still retains its rural character. About 200 square miles in extent, Bowland Forest is not a thickly wooded district, the term "forest" having been applied to any enclosed tract in olden times. But there are wide fells, wooded ravines, quiet hamlets, and isolated farmsteads. No major highway dissects the area, its small amount of traffic being served by winding secondary roads and lanes.

Yet Bowland Forest is within rapid reach of such Lancashire towns as Preston, Blackburn, Burnley, and Lancaster. The preservation of the area as a playground for posterity would not only be a means of providing an easily accessible retreat for Lancashire's industrial workers, but would ensure the retention of an historic region.

From this district went bowmen to take part in such major battles as Crecy and Agincourt, and, as a former royal demesne, the Bowland neighbourhood has jealously guarded some of its links with earlier times. Browsholme Hall, for centuries the home of the hereditary Bowbearers (or forest marshals) still remains, and souvenirs of the old forest laws are kept there.

Snowdonia, Wales, is a further region listed for post-war consideration as a national park. Snowdon (3,560 feet) is the highest and finest mountain in the southern portion of Great Britain, and there are several routes by which the five peaks can be ascended. Between these peaks run famous passes, and since 1895 there has operated a rack and pinion railway to the summit of the main peak. The district affords many opportunities for walking and climbing; developed as a national park, with unrestricted access, hostels, chalets, and camping grounds, it would be greatly enhanced as a retreat for the populace of South Wales and industrial areas farther afield.

The case for the establishing of this and other playgrounds on a national basis has been well put by a writer who recently declared: "No revolutionary measures are necessary; the foundations are already laid, and the edifice can be built. The communal spirit which the war has fostered in Great Britain should not be allowed to die. The natural beauties of Britain should be shared by the community."

Though the national parks of Britain may not be run on quite the same lines as those in Canada and elsewhere, the United Kingdom has watched with great interest the development of the similar schemes overseas. The inclusion of such playgrounds in the plans for a "Better Britain", is a fitting tribute to the Empire unity which war has cemented, and the eventual implementing of these ideas in the Mother Country will serve as a memorial to that unity.

Richly wooded territory in Scotland: Bonnington Woods, Lanarkshire, and the beginnings of the River Clyde

An historic spot in the New Forest, Hampshire—a potential national forestry park. The stone marks the place where William Rufus was killed in 1100 A.D.

Ullswater, from Gowbarrow Fell

A tranquil scene in the English Lake District, showing Coniston Water, woodlands and mountains.

British Council photos

GEOGRAPHY IN THE SCHOOLS

by **H. G. FEASBY**

As soon as men begin to think about anything that matters, someone must go and get an atlas.

KIPLING

THE vast majority of Canadians gained what knowledge they may have of geography in their elementary school days by a painful process of memorizing, possibly with the aid of a map, the positions of lakes and rivers, mountains and cities, together with a list of the principle products and exports of the country being studied. Little attempt was made to impart any understanding of actual conditions or the fundamental geographical facts around which a nation must build its life and economy. To-day, in geography, as in many other subjects, there is another conception of education based on the precept of that great thinker and teacher, Aristotle - "The aim of education should be to train our youth to understand the world in which they live". The study of geography will, perhaps, meet the condition of this concept of Aristotle better than that of any other single subject since it is intertwined with history and draws its material from a wide section of the field of human knowledge including geology, physiography and physics, sociology and economics, plant and animal ecology, and, to present this information, uses maps in various forms and for diverse purposes which depict for the student the physical features of the world around him.

It is considered by many that the study of history and the classics is the basic preparation for public life and public service. In any modern plan of education, geography should occupy at least an equal place, since it is essentially the study of man in his environment. Even before the first records of history, it conditioned the lives of our primitive ancestors and has moulded the pattern of the long struggle of men and nations for survival and for mastery over the forces and materials of nature. In the present crisis of world history the geographical aspects of war and economics are receiving more attention and are perhaps better understood than at any time in the past. New conceptions of geographical facts have been advanced, and the Germans, with characteristic "Teutonic exuberance" have built up a school of geographical thought and study directed toward their own sinister ends. The student of to-day, who will be the citizen of to-morrow, must be prepared to take his place in a world that is more closely interrelated than that of the past: a world where air transportation has given us a new space-time scale and whose economic life will be more than ever dependent on global conditions and policies. Under these circumstances the provision of facilities for an adequate education in geography would appear to be of vital importance.

In the study of geography Canada lags far behind most countries with comparable standards of education. Education being a provincial matter, the curriculum in this subject naturally varies somewhat in the different provinces, but, withal, the standard is low and it is seldom carried much farther than the elementary school. This condition may be contributed to various factors: the absence of suitable authorized textbooks, the lack of teachers specially qualified in geography or having any special interest in the subject and the limited time alloted to it in secondary schools. Educational authorities are indifferent and have relegated it to a position of minor importance. It is only when, and at that, rarely, a teacher is personally interested in the subject that the student receives anything but the most perfunctory training. In fact it is generally considered that geography can be taught by "any one who can read the textbook and write the names on the board".

In the matter of textbooks we are scarcely farther advanced than Italy, a country of notoriously low standards. The present textbook in use in Ontario, *Public School Geography*, was prepared for a course in elementary schools long before geography became a subject for study in our secondary schools. It is not a modern book, either as including up-to-date information, or in its subject matter and treatment. It is the only book authorized, however, and teachers have no option but to use it.

With regard to a supply of teachers trained in geography, the situation is equally bad. In many schools, notably the smaller ones, geography is taught by the most recently appointed teacher, or by the one whose time-table is not otherwise complete. All too frequently no one on the staff has any special training or qualifications in geography. In our larger

schools one teacher usually has charge of the course with little or no work in other subjects and so has some chance to assemble material and achieve for himself a certain specialized standing. Many teachers are indifferent to geography, while others see it merely as an aid to the teaching of history as showing the locale of historical events. The situation with regard to qualified teachers, however, is gradually improving. Lectures in geography are now given in the universities in Vancouver, London, Hamilton, Kingston and Montreal, and the University of Toronto has had, for nine years, a Department of Geography (leading to a Ph. D. degree in geography) whose head is that eminent geographer, Dr. Griffith Taylor. McGill University is opening a Department of Geography early this year which will be headed by Lt.-Cdr. G.H. Kimble, R.N.V.R. It is reasonable to assume, therefore, that a greater proportion of teachers in the future will have had at least some university training in geography.

Another evidence of the apathy in this matter of those in control of educational affairs, both in the individual school and in the Departments of Education, is the scant provision of time alloted for the study of geography. Most schools have three periods a week in the first two years; two schools known to the writer are endeavouring to get along on less, and two others are teaching geography in the first four years of secondary school course. This again raises the question of the value of the subject, and no radical change can be expected until it is generally appreciated that the study of man in his environment is at least as important as the knowledge of the declensions and conjugations of long dead languages or the disposition of troops in the battles of ancient and half forgotten wars.

To appreciate fully the backward position of Canada in the matter of the teaching of geography, a comparison with conditions in Europe and the United States is illuminating. Dr. Isaiah Bowman in his book, *Geography in Relation to the Social Sciences* (1934), points out that in England the Board of Education recommends three periods a week in geography and two in history throughout the secondary school course. In examinations equivalent to our matriculation, 66 per cent of the candidates wrote geography. In Holland there is no secondary school which does not include geography to the end of the course, and every student in a secondary school in any country in Western Europe is required to take several years of unified training under a teacher who is a specialist.

In teacher qualification also, Europe is far in advance of us. In France geography is taught in secondary school by specialists only. In Germany all teachers have taken geography throughout the secondary school, and in nearly every case geography is required for some time in university. In Britain, nearly all universities have a department of geography, and a Board of Education survey shows that in 67 per cent of the 671 schools visited by a committee there were one or two specialists in geography. In the United States there are professors of geography in every important university, and Chicago and Clark each have four senior professors. In Australia and South Africa most of the universities have a department of geography, but in Canada, until 1945, only one university has been so organized.

The question naturally arises, how can we remedy our backward position? The first requirement would be to arrange for a greater allotment of time in the secondary school course, not so much by an increase in the early years, where in most cases the time now is sufficient, but by a more general provision for the teaching of geography in the senior years. The natural result of this would be to include geography as a matriculation subject, so that much of the elementary work now taught in the universities would be done in high schools and collegiate institutes, as is now the case with most university subjects. A change such as this would certainly find favour with many secondary school students, as is shown by their response to such work as they are now offered in geography under the present course of study. The second requirement seems, to the writer, to be for greater enthusiasm and more advanced study on the part of teachers of geography. Most teachers are specialists in some department, and to a large extent they became interested in their particular subject because of some enthusiastic teacher in their high school course. Therefore, if we hope to see geography gain a place equal to that accorded to other subjects of the secondary school course, we, as geography teachers, must become more zealous and better informed. The matter of the provision of adequate and balanced textbooks suitable for use in high schools and collegiate institutes should also be given careful attention by educational authorities.

Black chop dish with carved cover—used upon special occasions. Meat was placed on the dish and cut small on the little chopping block at one side. Palm oil and peppers were placed in the centre receptacle and the dish was passed from one to another. It was purely a courtesy proceeding. Etiquette forbade that more than one piece should be taken. From such a dish as this the heart of a British officer, Sir Charles M'Carthy, was divided among a group of native warriors in the belief that by eating his heart the mantle of his courage would fall upon them.

STOOL WORSHIP IN ASHANTI*

by **SONIA COFFIN**

THE Confederacy of Ashanti was, for many years, one of the most powerful and amazingly gorgeous kingdoms of that part of West Africa known as the Gold Coast. Fragments of its history are known as far back as the early explorations of the Portuguese in the sixteenth century. About that time, a vigorous race of negroes, with intermixture of Arab blood, migrated from the upper sources of the River Niger and founded a series of states along its lower courses. The largest settlement was at Kumasi, and from this centre raiding bands gradually subdued the surrounding kingdoms and united them into what afterwards became known as the Confederacy of Ashanti. The Ashantis brought with them, from the obscurity of their past, a culture far superior to that of the tribes among which they settled. The distinguishing feature of this culture was the worship of the Golden Stool. Though Stool Worship was practised in other West African kingdoms, it came to have a much greater significance in Ashanti, in that all the various tribes became united into a powerful confederacy through the worship of this great national fetish.

To understand the importance of the Golden Stool it is necessary to know something about Stool Worship in general. The Ashantis, in common with other primitive people, held the belief that the soul seeks a new haven as soon as it has left the body. To provide for this haven a stool is carved, which becomes the abode of the soul of the owner during life and a shrine for his soul to revisit after death.

*Photos by P. T. Timms (from the Dyer collection in the Vancouver Museum)

These stools are carved from reawood, a species of white wood tree. Something of the totemic ideas of our own West-Coast Indians is reflected in the belief that the tree out of which the stool is to be made has its own spirit or guardian which must be appeased during the process of cutting it down and carving the stool. For this purpose prayers and offerings are tended to the spirit of the tree. Thus, the making of a stool becomes a significant religious act among the Ashantis, and an intimate and deeply religious association exists between it and the owner. When finished, the stool stands about twelve inches high, and has a slightly concave seat. To prevent any stray soul that might be lingering near from getting lodgment therein, it is placed on its side when not in use.

There are stools of various kinds: tribal stools, men's stools, women's stools and official stools for councillors and chiefs. Tribal stools, known as the Stools of Ancestors, form an important part in the religious observance of the Ashantis. These are the stools of the notable men of the nation, who were honoured at death by having their 'white' stools 'blackened'.

The ceremonial rites performed in the process of blackening a stool were carried out with barbaric cruelty in the Long Ju Ju Houses where slaves were kept before being sacrificed. They were put to death to the accompaniment of the beating of sacrificial drums, blowing of horns and ringing of bells. Their blood was used to polish the stool, which had already been darkened with pigments. Each tribal stool had its accompanying paraphernalia: bells to summon the soul of the departed to his shrine when his guidance was needed in the councils of the nation, small iron fetters to bind his soul to the stool, sacred balls, beads and masks. They were kept in the Stool Chamber of the tribe and regarded with utmost reverence by the people, as trust in and fear of ancestral spirits was, and still is, one of the most powerful influences in their lives.

The greatest fetish in this country, where fetish worship abounds on every side, is the Golden Stool of Ashanti. Its origin is shrouded in myth, but out of the confusion of legend, superstition and witchcraft, a story has emerged to the effect that, a century or so after the migration of the tribes, there arose a prophet named Anotchi, who proclaimed he had a mission from heaven to deliver Ashanti from its dependence upon the neighbouring kingdom of Denkara, to which, at that time, the Ashantis were forced to pay a yearly tribute. He called upon all the Chiefs and Queen-mothers of the various tribes to meet in Kumasi to hear his

Centre:—Ceremonial stool of a native chief, stained with pigments and polished with the blood of slaves sacrificed on the occasion of his death. Left and right:—Ceremonial bells and rattles

Carved wooden mask—probably the death mask of some favourite wife or chieftainess, considered a beauty by the standards of her tribe.

message. With the astuteness of a modern dictator, he realized that the only safeguard of the nation against its powerful enemies lay in the unity of the tribes. This unity could be achieved only through the worship of a common national fetish.

According to legend, during the palaver which followed the gathering together of the Queen-mothers, Chiefs and Councillors in Kumasi, the sky suddenly became darkened, and, amid peals of thunder and flashes of lightning, there descended from out of a cloud which had gathered above their heads a wooden stool plated with gold. In some miraculous manner it came to rest upon the knees of the Kumasi chief. This stool, declared Anotchi to the awe-struck assembly, had been sent from heaven to enshrine the soul of the Ashanti people, and, as the body of a man shrank into decay after his soul had departed, just so would the Ashanti nation weaken and die if ever the Golden Stool should be captured or destroyed.

The results were momentous. From that day to this, the faith of a credulous people has centred around the Golden Stool. It became the Shrine of the nation, regarded by the people with the same awe and intensity with which the Israelites of old regarded the Ark of the Covenant. It was to them what the Cross is to the Christian or Mecca to the Mohammedan. In its defence men willingly faced death, urged on by the women of the tribe. Its influence inspired them with a fervid fanaticism which, combined with the defiant and aggressive fatalism characteristic of the race, impelled them forward from one conquest to another. This spiritual fatalism still exists among the Ashantis, and is best expressed in an ancient war-chant of their warriors:

"If we go forward — we die,
If we go backward — we die,
Better go forward — and die."

On ceremonial occasions the Golden Stool was carried at the head of processions attended by acolytes and guardians. These were hereditary offices, carrying with them certain honours and exemption from the punishment of death. The

Top:—Ceremonial sacrificial drum used at human sacrifices.

Centre:—Fetish horn made from elephant tusk.

Bottom:—Black pottery Ju Ju

Centre:—Bush signal drum which transmits messages from one place to another almost with the speed of the telegraph. Left and right:—Two ceremonial drums used in the Ju Ju Houses. These must not be confused with the sacrificial drums used in the Long Ju Ju Houses where human sacrifices were carried out.

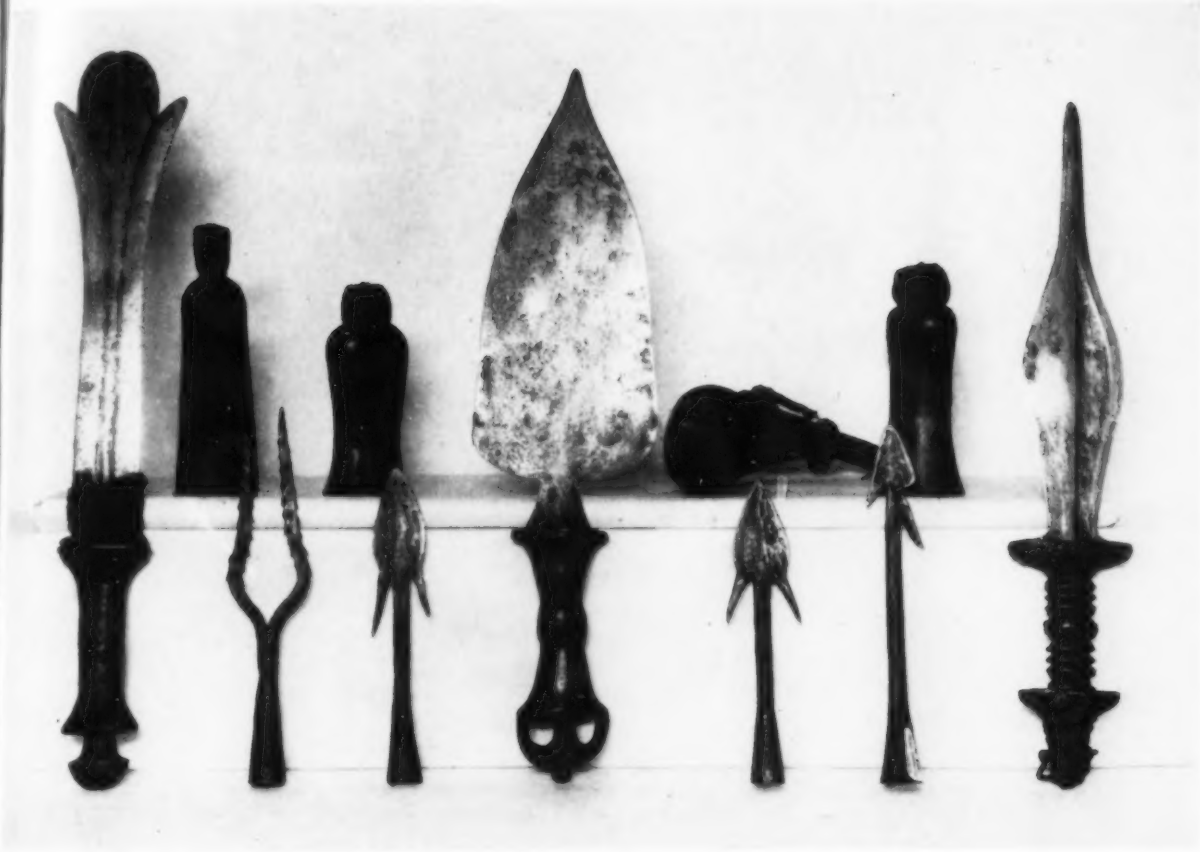
Fetish carvings from Ju Ju House. The two ringed heads show Zulu influence.

Stool was protected by a special canopy, known as the Canopy of the Nation. It rested upon a special chair, and never at any time was it used as a seat. Changes took place within the nation. Kings were crowned, deposed and died, but the Golden Stool remained the unchanging symbol of the spiritual aspirations of the people, greater and more permanent than any king, never to be desecrated or destroyed.

Gradually a large amount of gorgeous paraphernalia accumulated around the Golden Stool. Two brass bells were made by Anotchi. The Ashantis' greatest enemy, the King of Denkara, had been taken captive in his kraal while playing 'wari' with his wife. About his ankles he wore chains of gold, but boasted that even though fettered he was more than a match for the Ashantis. These chains were hung about the Golden Stool binding to it the soul of the nation. Later, another powerful young king established a stool of solid gold in his kingdom. When the Ashantis heard of this they sent messengers to demand that it be destroyed. The king consented, and the stool was about to be melted down when the old Queen-mother, who had been absent, returned and learned what was about to take place. Sitting upon a stump in the royal kraal, she expressed her opinion (in language unfit for reproduction) of her son — and of the Ashantis, who had dared suggest such a humiliation to her tribe. A second message, this time of defiance, was sent to the King of Ashanti. In the war which followed the Ashantis were victorious, the old Queen-mother was left desolate and her son was killed. Two death masks of his features were made from the gold of the stool and placed with the other paraphernalia of the Golden Stool. Later, the death mask of a British officer was added to the trophies.

The story of this mask is characteristic of the heroism which marked the men of the West African frontier. A young Scotch officer, Sir Charles M'Carthy, was sent

Ceremonial masks and wooden fan

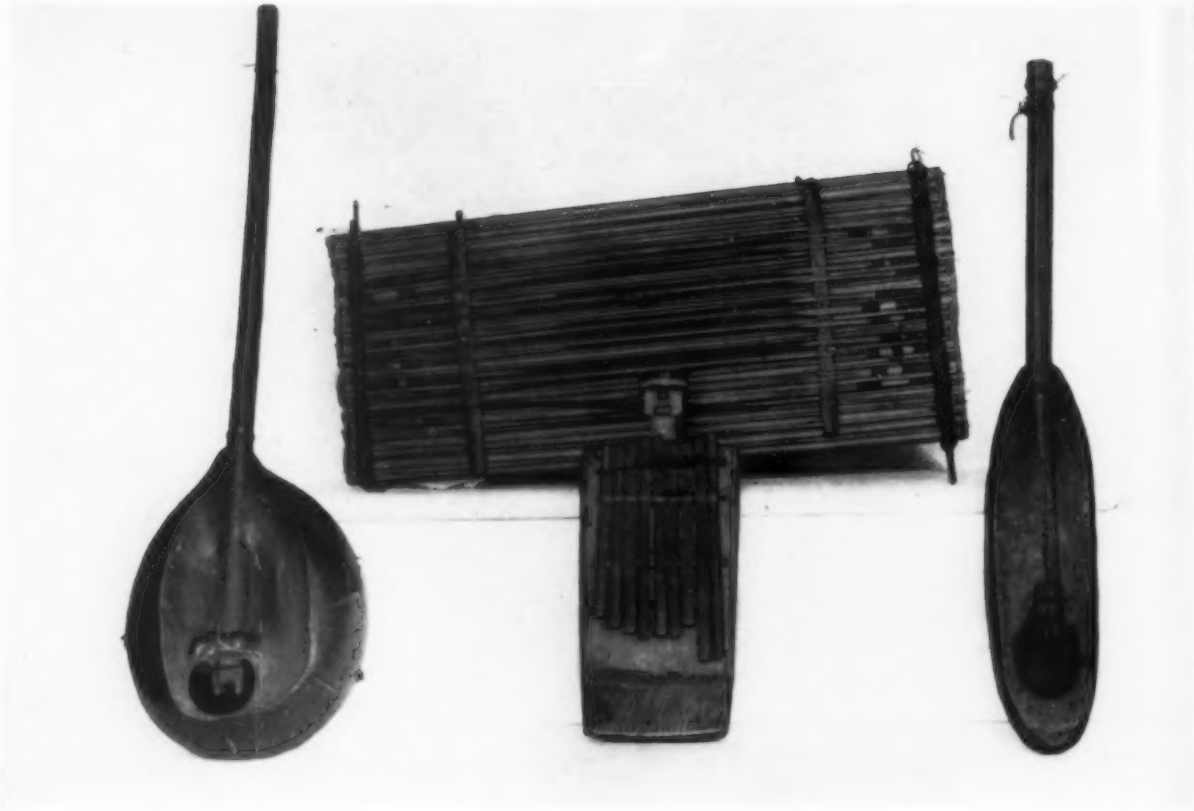


Weapons used by natives of southern Nigeria: three short swords; four spear-heads used for elephants; gourd powder flask; three ceremonial bells from a Ju Ju House.

with a small force to suppress a native uprising ten thousand strong. After a day of terrific fighting all hope was abandoned when they found that, through some horrible mistake, the packages which were supposed to contain ammunition were filled with macaroni instead. M'Carthy died, with all his men, without asking or receiving quarter. His heart was divided among the native chiefs and eaten, in the belief that, by so doing, the mantle of his courage would fall upon them. To this day his name is a 'Great Oath' among the tribes.

Many years had passed when a young Commissioner, spending the night at the kraal of the Head Chief of a distant Native Division, asked what was the Drum Call, or motto of the tribe. The Chief beckoned to an old grey-haired linguist to come forward and tell the story of the Drum Call. To the surprise of the officer, it was an echo of this tragic event of far-off-days. M'Carthy and the former Chief of the tribe had been friends and 'blood brothers'. They had taken an oath to stand by each other even unto death. M'Carthy, with his small band, stopped overnight to rest at the kraal of this Chief, who urged him to wait until a larger force could be gathered together. This he refused to do, as the tribes under his protection were in immediate danger. Then the Chief declared that he would accompany his friend according to his oath. He went with M'Carthy and shared his fate, and to this day, whenever the drummers announce the Chief of that tribe, they sound the call which says to those who know the speech of drums: "I have kept my word".

Internal strife and the continual loss of life through human sacrifice gradually weakened the Confederacy of Ashanti until, in 1896, it was made a Protectorate under the British Crown. Prempeh, the King, was deported, and the Golden Stool mysteriously disappeared, spirited away to some secure place of concealment, nor could any trace of it be found. Even the chiefs most loyal to the British refused to



Musical instruments

give information as to its hiding place, and muttered darkly at any effort made to discover it.

There followed years of progress and prosperity in Ashanti. Roads and railroads were constructed; telegraphs and telephones were introduced. Many of the accessories of modern life were brought into use among the natives. Kumasi expanded into a city. Education and Christianity began to take the place of the old dark ways of fetish worship, and for many years the Golden Stool seemed to have dropped out of the minds of the Ashantis.

Then, suddenly a rumour spread throughout the nation: some of the golden chains and bells which formed part of its insignia had been seen for sale in the Market Place, and the whole nation was at once stirred. Old loyalties and superstitions awoke — desecration had been done to the National Shrine. The Chiefs and Head-men gathered in Kumasi, and the people went about wrapped in mourning clothes. Suspicion fell upon the British; it was at first believed that they had taken possession of the Golden Stool, but this thought was soon dispelled, for it became apparent that they not only knew nothing about it, but were in sympathy with the people in their distress. Gradually it became known to the Ashantis that some young men of their own nation had perpetrated the offence. When the British had entered Kumasi twenty years before, the custodian of the Golden Stool buried it with its insignia in a field not far from the village of which he was Head-man. In the course of time, the guardians died, their successors became Christians, and, amidst the many changes which were taking place in Ashanti, the hiding place was forgotten. It was discovered by natives excavating for a road through a lonely field, and hastily taken to the home of its hereditary custodian. Later, some of the younger men, who had become influenced by western ideas, entered the house where it was concealed, and, in a spirit of bravado, took possession of its wealth of golden trappings and sold them or distributed them among their friends. Eventually the truth leaked out, and all

who were found to have had anything to do with the buying or selling of the sacred insignia were brought up for trial in Kumasi before an assembly composed of all the Chiefs and Councillors of the kingdom. Five were condemned to death, others were exiled, others again were required to drink poison. Through the influence of the British Commissioner, these punishments were moderated and the death penalties changed to exile. The Golden Stool itself remained unchanged, although many of its gorgeous insignia were never recovered.

The Ashanti Confederacy which had first come into existence through the mysterious appearance of the Golden Stool, centuries before, was re-established January 31st, 1935, under the sanction of the British Government. Twenty-five years previously, at the time of his deportation, Prempeh, the King, a barbarous potentate, had permitted and witnessed human sacrifice. The funeral customs of his father had been celebrated with, among other savage rites, the sacrifice of fifty slaves. He now returned, having acquired the rudiments of Christianity and sufficient knowledge of civilization to preside, under the supervision of a British Commissioner, over a much changed kingdom. At his installation the Golden Stool was restored to its place at the head of the ceremonial procession through Kumasi, stripped of its barbarous accoutrements, emblems of past cruel customs. The Stool itself remained the essential thing in the eyes of the people. It was, to quote the words of one of their own orators: "the nut-shell holding the soul of all Ashanti — protecting us from all evil; a mysterious thing believed to have been charmed or grasped or received from the Heavens by our Great High Priest, Konfi Anotchi".

Trade money

The Song of the Ski

Norse am I when the first snow falls:
Norse am I till the ice departs.
The fare for which my spirit calls
Is blood from a hundred viking-hearts.
The curved wind wraps me like a cloak;
The pines blow out their ghostly smoke.
I'm high on the hill and ready to go —
A wingless bird in a world of snow:
Yet I'll ride the air
With a dauntless dare
That only a child of the north can know.

The bravest ski has a cautious heart
And moves like a tortoise at the start,
But when it tastes the tang of the air
It leaps away like a frightened hare.
The day is gloomy, the curtains half-drawn,
And light is stunted as at the dawn:
But my foot is sure and my arm is brawn.

I poise on the hill and I wave adieu:
(My curving skis are firm and true)
The slim wood quickens, the air takes fire
And sings to me like a gypsy's lyre.
Swifter and swifter grows my flight:
The dark pines ease the unending white.
The lean, cold birches, as I go by,
Are like blurred etchings against the sky.
One am I for a moment's joy
With the falling star and the plunging bird
The world is swift as an Arab boy;
The world is sweet as a woman's word.
Never came such a pure delight
To a bacchanal or a sybarite:
Swifter and swifter grows my flight,
And glad am I, as I near the leap,
That the snow is fresh and the banks are deep

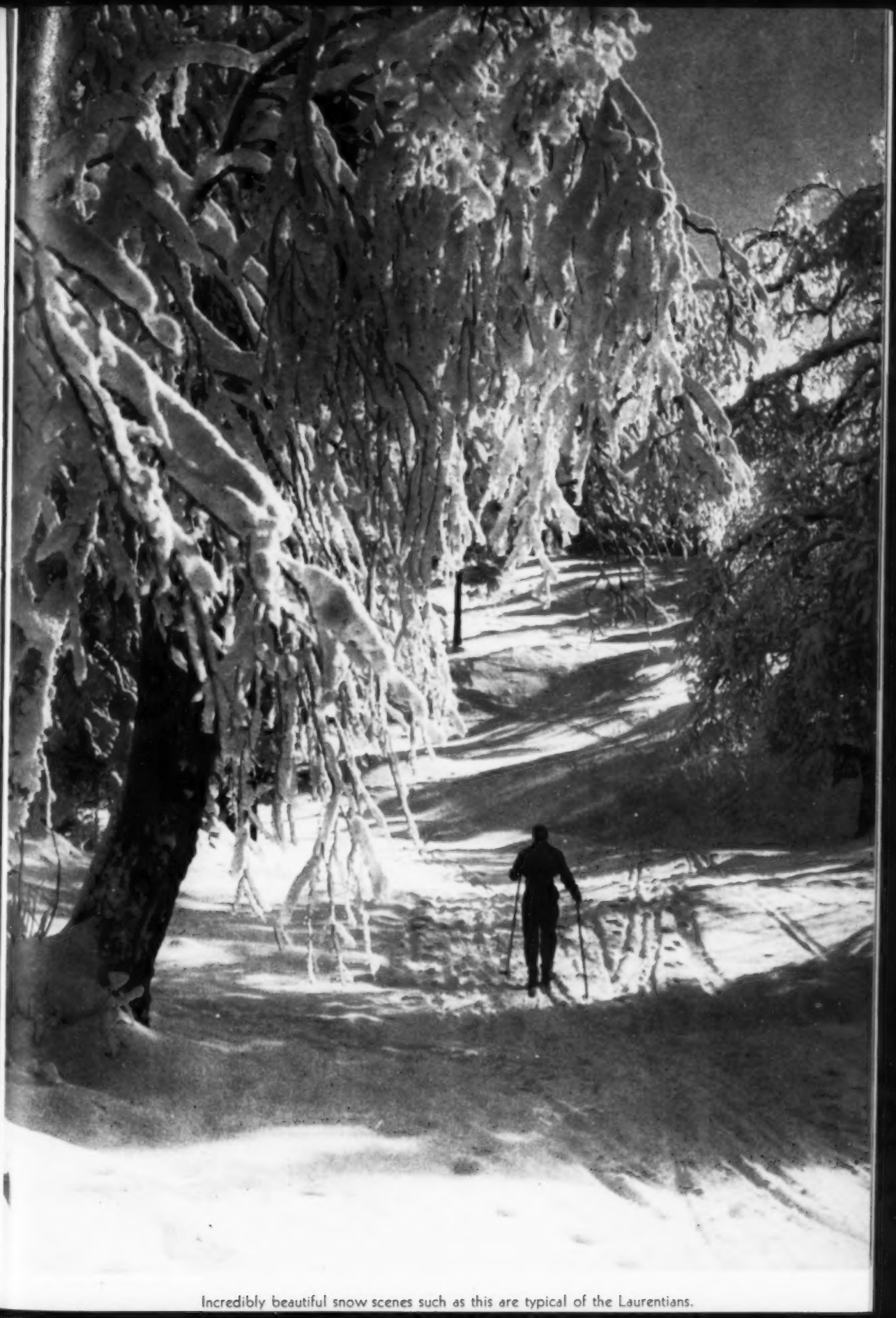
Swifer and swifter on I fare,
And soon I'll float with the birds on air.
The speed is blinding; I'm over the ridge,
Spanning space on a phantom bridge.
The drifts await me; I float, I fall:
The world leaps up like a lunging carp.
I land erect and the tired wings drawl
A lazy rune on a broken harp.

Child of the roofless world am I;
Not of those hibernating drones
Who fear the gray of a wintry sky
And the shrieking wind's ironic tones,
Who shuffle cards in a cloud of smoke
Or crawl like frozen flies at chess,
Or gossip all day with meddling folk
In collar of starch and a choking dress.

Come, ye maids of the vanity-box,
Come, ye men of the stifling air:
The white wind waits at your door and knocks:
The white snow calls you everywhere.
Come, ye lads of the lounge and chair,
And gird your feet with the valiant skis
And mount the steed of the winter air
And hold the reins of the winter breeze.

Lord of the mountains dark with pine!
Lord of the fields of smoking snow!
Grant to this vagrant heart of mine
A path of wood where my feet may go,
And a roofless world to my journey's end,
And a cask of wind for my cup of wine,
And yellow gold of the sun to spend,
And at night the stars in endless line,
And, after it all, the hand of a friend —
The hand of a trusted friend in mine.

WILSON MACDONALD



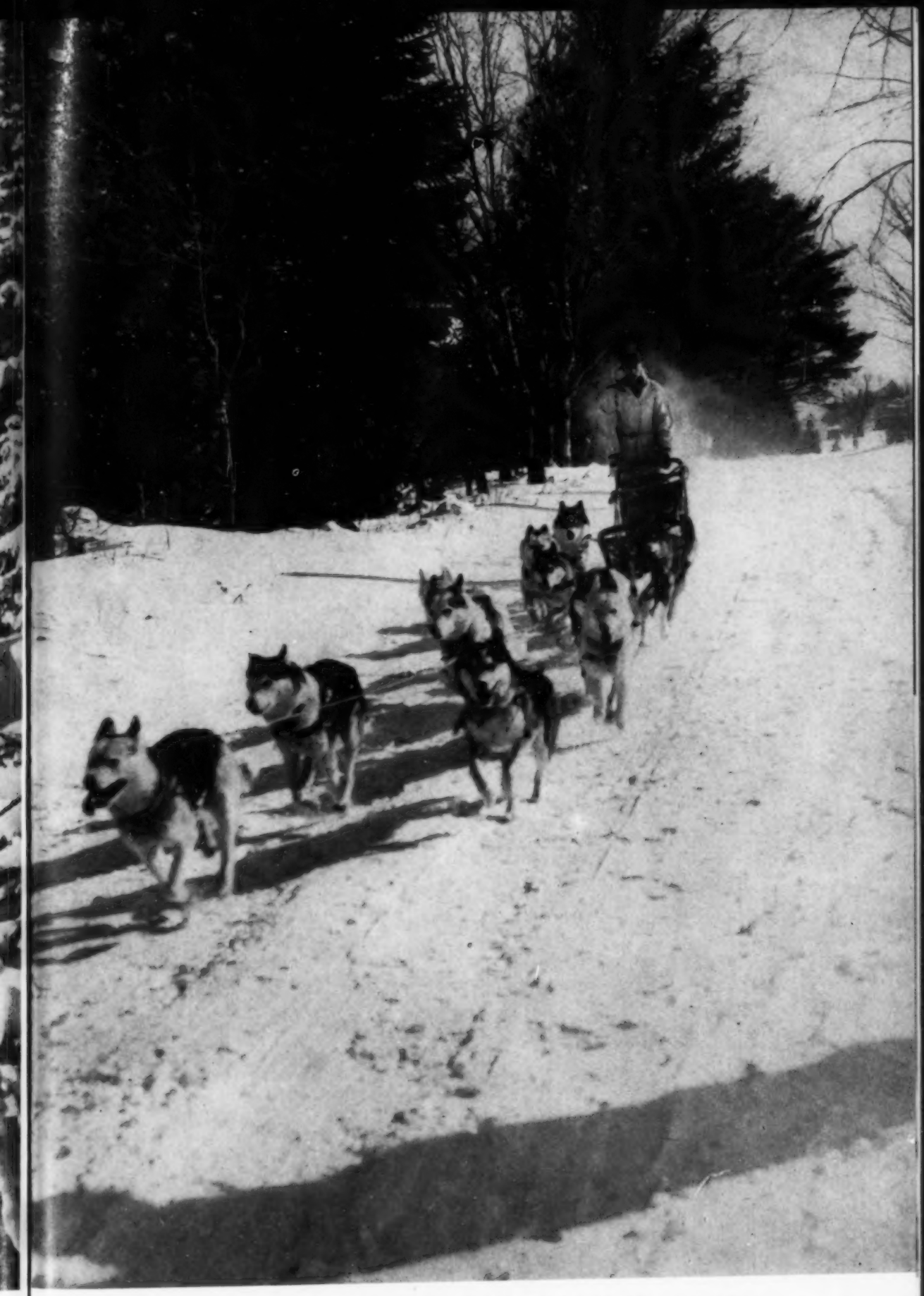
Incredibly beautiful snow scenes such as this are typical of the Laurentians.

The ice palace at St. Jovite; snow and ice sculpture, with rainbow-hued lighting effects, provides a decorative feature at many Laurentian lodges, and can be seen from miles away.

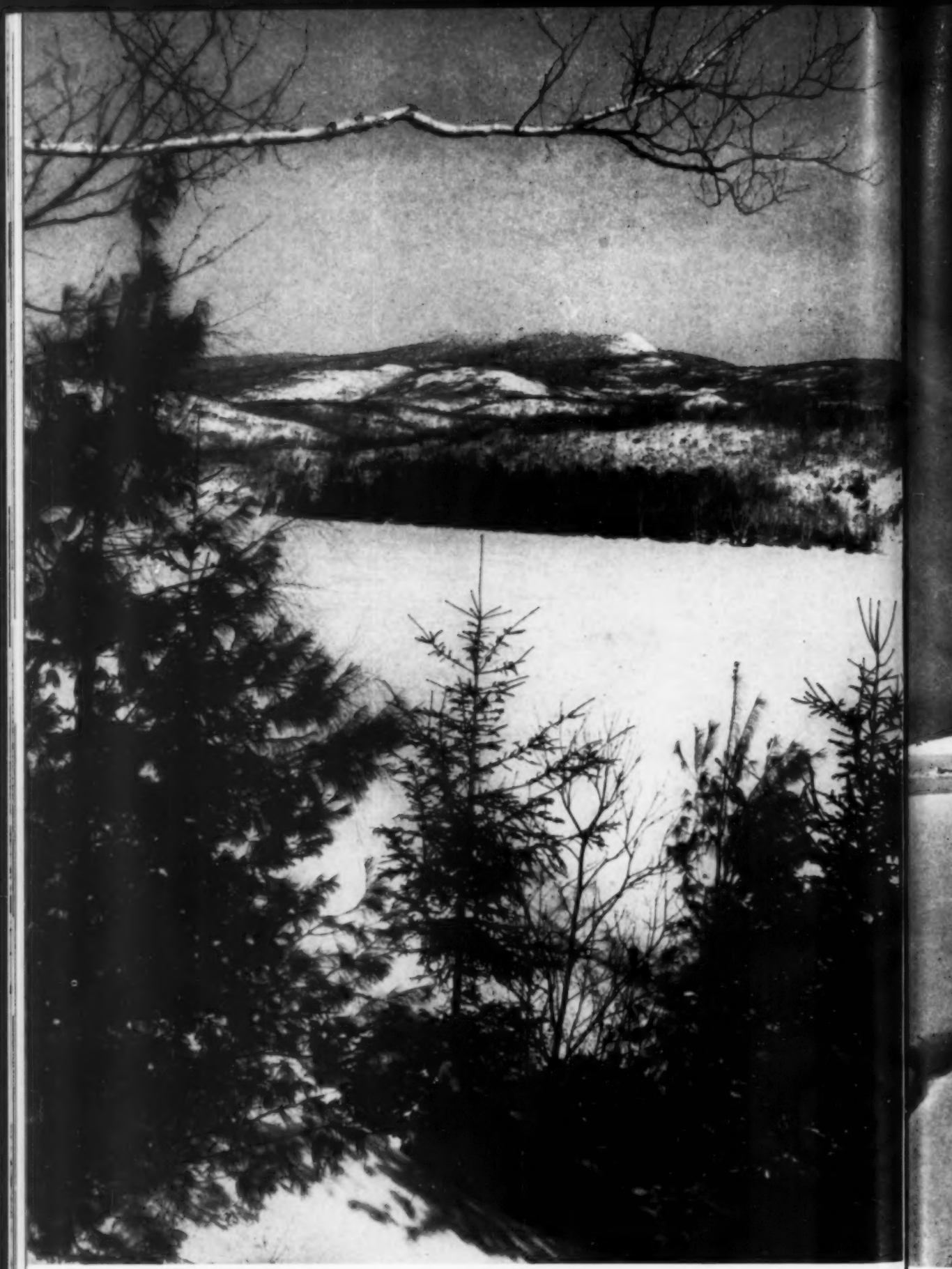
The ice palace at St. Jovite; snow and ice sculpture, with rainbow-hued lighting effects, provides a decorative feature at many Laurentian lodges, and can be seen from miles away.

A heavy blanket of snow started the ski-ing season off early this year; ski-enthusiasts breaking trail in the Tremblant region.

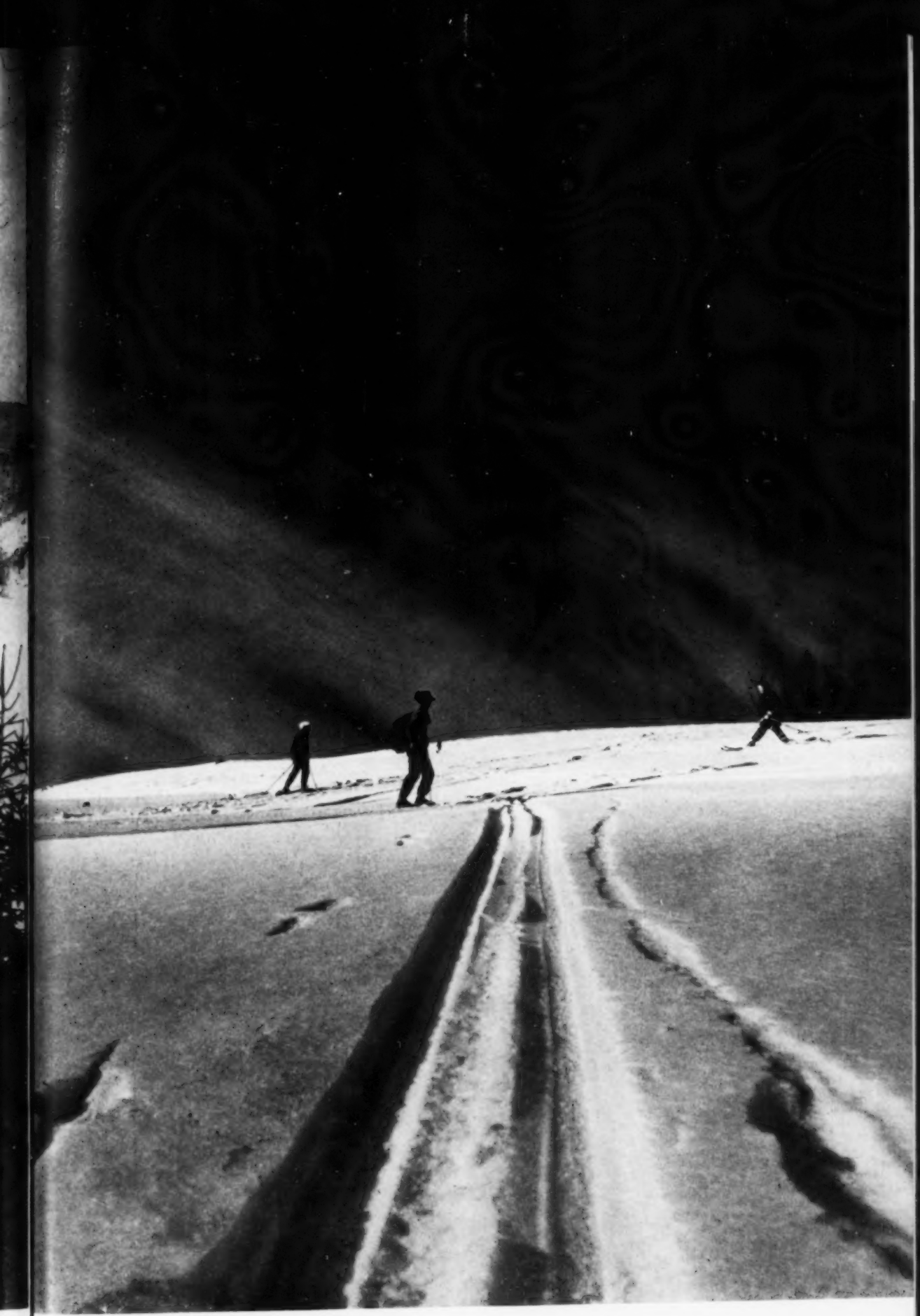
Our northern winter's wonderland—where the workaday world seems very far away.



Dog teams at St. Jovite provide a novel and thrilling way of viewing the mountain scenery.



Two views of the Laurentians' 100 square miles of ski terrain



On the Maple Leaf Trail,
Gatineau Hills,
near Ottawa

Photo courtesy C.P.R.

EDITOR'S NOTE-BOOK

J. L. Webster is a native of the Okanagan Valley in British Columbia, and a graduate of Ontario Agricultural College. He spent three and a half years as lecturer in horticulture at MacDonald College, St. Anne de Bellevue, Quebec, and for a short time was assistant in horticulture at the Experimental Station, Saanichton, Vancouver Island, following which he was Inspector with the Dominion Seed Branch, Vancouver, for four years. Shortly after the outbreak of war, Mr. Webster was appointed District Field Inspector in charge of Vegetable Seed Production for the British Columbia Department of Agriculture, which position he holds at this time.

D. M. Stephens, author of "Fur Rehabilitation in Northern Manitoba", is a graduate in Civil Engineering from the University of Manitoba who has gained extensive experience in Northern Canada on reconnaissance and mapping surveys. Mr. Stephens has been intimately associated with the development of Manitoba's fur projects, having been designing engineer during the initial stages of the programme. Since 1938, as Deputy Minister of Mines and Natural Resources, he has had administrative charge of the Department which is in control of fur, game, fisheries, minerals, forests, crown lands and water resources.

Flight Lieutenant W. A. Shields enlisted in the R. C. A. F. as a Public Relations Officer after ten years in newspaper work and another five years as advertising manager with a large Canadian life insurance company. As a reporter he covered spot news stories from coast to coast in Canada, and was a member of both the Ottawa and Queen's Park press galleries.

Arthur Gaunt—See C.G.J. for January and May of 1944.

Wilson MacDonald, a graduate of McMaster University, Toronto, has had a number of collections of his poems published, and also several plays and playlets. The following represent a few of his better-known works:— *Songs of the Prairie Land*, 1918; *Out of the Wilderness*, 1926 (in which collection "The Song of the Ski", published in this issue of the Journal, appears); *Caw Caw Ballads*, 1930; *A Flagon of Beauty*, 1931; *Song of the Undertow*, 1935.

H. G. Feasby (B.A., University of Toronto) served overseas in the Canadian Tank Corps during the First Great War. Following graduation he returned to the University of Toronto to take a course in geography, and for the past fifteen years has taught geography in Riverdale Collegiate Institute, Toronto.

AMONGST THE NEW BOOKS

Compass of the World edited by HANS W. WEIGERT and VILHJALMUR STEFANSSON (The MacMillan Co. Toronto, $4.00).

This book, as stated on the title page, is intended to be a symposium on Political Geography comprising some twenty-eight papers or articles, by various authors, most of which are reprints from periodicals of the last two years. The book is by no means homologous; there are as many viewpoints as there are contributors, and much honest divergence of opinion and free discussion of the "shape of things to come". Most of the contributors, however, seem to share a strong distaste for the shape of the world as drawn on Mercator's projection and insist, with all the ardour of recent converts, that the world is really spherical in shape and that a great circle represents the shortest distance between any two points on its surface. These conceptions, of course, are not exactly new, nor can they be considered as a basis for any radical change in existing conceptions of geography, and Mr. Mercator's excellent projection has done and is still doing yeoman service in guiding the courses of the thousands of ships over the seas of the world. Any commercial development of great circle routes for transpolar flying between America and Asia or Europe is, of course, a thing of the future and by no means an accomplished fact. Your reviewer is not, perhaps, too conservative in feeling that it is still early to be unduly impressed with the possibilities of these global routes or to accept too readily the hypothesis that our present methods of transportation and age-old routes are outmoded.

The book is divided into six chapters, in each of which is grouped a number of more or less related articles. Chapter one, entitled "The New World: Geography and Geopolitics", contains two notable pieces of writing — "The Image of Victory" by Archibald MacLeish and "Geopolitics and International Morals" by Rev. Edmund A. Walsh, S.J., who pays his eloquent respects to the German brand of geopolitics. In chapter two, "New Directions and Skyways", five authorities present their views on the mastership of the air and its effects on geographical thinking. Among these the editors of *Fortune* contribute a lucid exposition on the principles of the freedom of the air and the regulation of international air traffic. Chapter

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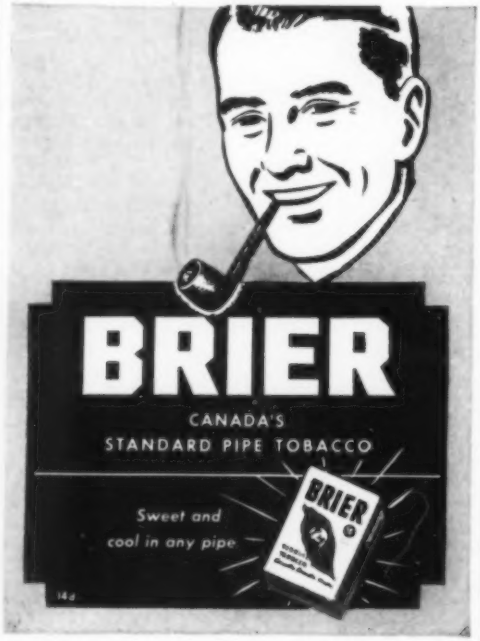

three, "Reflections on the Heartland", contains five articles directed toward the consideration of Sir Halford Mackinder's conception of the "Heartland"—the central portion of the Eurasian continent, which, being invulnerable to attack, he considers as a probable nucleus of world power. Noteworthy among these is one by Sir Halford Mackinder himself and another by Ellsworth Huntington under the title of "The Influence of Geography and Climate upon History".

Chapter four, "The Northward Course", is of particular interest to Canadians, and two of its eight sections are by Mr. Stefansson himself. With all due deference to Mr. Stefansson's great knowledge of the North, it would appear that his attention has been so constantly directed to the Arctic for so many years that he has, in a large measure, lost any reasonable sense of proportion. He is, of course, a strong proponent of transpolar flight and makes light of the difficulties and dangers that are inevitably associated with the development of commercial routes under arctic conditions. His criticism of the location of the Alaska Highway and preference for a route down the Mackenzie and thence across to the Yukon may or may not be justified, but it is difficult to see how he can reasonably propose the development of the Mackenzie and Yukon Rivers with a communicating railway as a commercial route to the Orient in competition with sea-borne traffic. He also advocates the Northwest Passage as a sea route comparable with the Northeast Passage which has been established by the Russians with vast expense and, up to the present, only moderate success. In so doing, he does not take into account the different geographical aspects of the two routes and contradicts himself as to its feasibility in pointing out that oil deposits near Point Barrow, Alaska, which are only at the western entrance to the Northwest Passage, cannot be developed on account of difficulties in sea-borne transportation. The insinuation that the Northwest Passage along with the Hudson Bay route are being sabotaged by vested interests in Eastern Canada is difficult to accept. He is in error in dating the Hudson Bay railway from the last war. It was actually under construction some years earlier. This chapter is considerably strengthened by two good articles on the northern possessions of the Soviet Union and a paper by Griffith Taylor on "Canada's Role in Geopolitics". Chapter five, "Reflections on Asia", includes two excellent sections: one by Owen Lattimore on "The Inland Crossroads of Asia" and the other a discussion by Dr. Weigert of General Haushofer's geopolitical views on Asia. The final chapter consists of three papers, of a somewhat academic character, on "The Shifting Balance of Man Power".

This book gives the reader the impression that it has been more or less patched together from material that was readily available. It includes, however, many excellent articles on the world of to-morrow and is, throughout, stimulating and thought provoking. A valuable addition to any library as an expression of a period of great change in the geographical aspects of world affairs.

P. E. P.

The 1943-44 edition of the *Canada Year Book*, published by authorization of the Hon. James A. MacKinnon, M. P., Minister of Trade and Commerce, has been announced by the Dominion Bureau of Statistics. This publication will be supplied to the public by the King's Printer, Ottawa,

at $2.00 per copy." By special concession, teachers, university students and ministers of religion may obtain paper-bound copies at $1.00 each from the Dominion Statistician, Dominion Bureau of Statistics, Ottawa. The *Canada Year Book* is the official statistical annual of the country, and contains a thoroughly up-to-date account of the natural resources of the Dominion and their development, the history of the country, its institutions, its demography, the different branches of production, trade, transportation, finance, education, etc. — in brief, a comprehensive study within the limits of a single volume of the social and economic conditions of the Dominion. On grounds of wartime economy, the 1943 edition of the *Canada Year Book* was not published, and the present volume has, therefore, been planned to cover developments over a two-year period.

Greece and Britain by STANLEY CASSON (Collins, London, England, $2.50).

"The Glory that was Greece", her ancient pre-eminence in the arts, in architecture and in the realms of thought, caused her influence to spread to the remotest parts of the then known world and persisted until the Byzantine Empire was finally overthrown by the Turks in the late middle ages. In common with other parts of northern Europe this influence affected the arts and thought of Britain, particularly in Saxon times, and it is the purpose of this book to trace this golden thread of Grecian culture through Britain's history until it was crystallized in British assistance in the Grecian wars of liberation and the modern alliance of the two countries in the great wars of the present generation.

Contrary to the popular belief, recent research indicates that it was the Greeks from Marseillaise rather than the Phoenicians who first brought the Briton into contact with the civilization of the Mediterranean, and it was a bold Greek seaman, one Pytheas, who first circumnavigated the British Isles in the fourth century before Christ. Colonel Casson makes a thoughtful analysis of the Greek influence on Saxon culture, describes the filibustering exploits of Richard, the Crusader King, on the Island of Cyprus, and gives extracts from two interesting accounts written in the sixteenth century, the one by a Greek visiting England and the other by an Englishman in Greece. Following his theme into more recent times, he gives some account of the importation of Greek sculpture into England and its influence on the arts and architecture of the seventeenth and eighteenth centuries, and recalls the participation of various Englishmen in the Greek wars of liberation.

This book is written with skill and insight, and Colonel Casson is not above a pleasant touch of humour here and there. It is beautifully illustrated with numerous colour plates and some sixty other prints. Its general format, in spite of wartime restrictions, is excellent.

P. E. P.

Facts on File Yearbook. 1943: Person's Index of World Events. (Published by Person's Index, Facts on File, Inc., N.Y. Price $25.00).

An index of the events of 1943, arranged chronologically and indexed by subjects. An invaluable guide to world events of the year as mirrored by the American Press, excellently summarized and conveniently arranged for reference.

P. E. P.

Guide to Bird Watching by JOSEPH J. HICKEY (Oxford University Press, Toronto, $4.50).

Bird lovers and amateur naturalists will welcome this manual on bird watching written by an authority on this fascinating hobby. The book is excellently illustrated with black and white cuts by Francis Lee Jaques.

When the Boys Come Home by C. N. SENIOR (Collins, Toronto, .25 cents).

A handbook for returned soldiers showing their post-war opportunities in Canada and the measures that are being taken to prepare for their return into civil life. A careful summary which should be studied by every service man and woman. Written before the bonus legislation law, it does not cover that as part of the subject.

Geopolitics in Principle and Practice by RUSSELL H. FIFIELD and G. ETZEL PEARCY (Ginn and Company, Mass., $2.25).

The world geopolitics, in recent years, has come to have a sort of sinister significance. The popular conception that it defines a new species of Nazi wickedness which enables conspiratorial groups of the Herrenfolk gathered in Munich, probably in some cellar, to shift, by some recently discovered geographical formula, continents and populations like pawns on a chessboard is, of course, far from the facts. Geopolitics is neither more nor less than the study of geography applied to political problems. Certain professional geographers have advanced theories of their own under the label of geopolitics which appear to have somewhat startling implications but we can comfort ourselves with the assurance that other professional geographers in this generation or the next will propound other and equally startling theories which will entirely disprove those which now trouble us. The basic facts of geography are always the same. It is their application to the pattern of the time which changes and must change with new groupings of population, new means of transportation and new products which have become highly important to an industrialized world.

In spite of the somewhat portentious title of this book the reader may be assured that he is not embarking on any laborious and professorial dissertation on geography similar to many that have flowed in recent years from the presses. The book is, in fact, an excellent study of the present war and existing political and economic conditions viewed from a geographical standpoint. The authors express themselves simply and concisely; their facts have been carefully verified and while one may not, in every instance, agree with their conclusions, the field of prophecy is in no way circumscribed and every man is entitled to his own guess about the misty forms of future events. It is, indeed, one of the most pleasant and useful of current ventures in the field of geography. It is written with a minimum of technical terms, and, while the arrangement and grouping could possibly have been improved upon, this fault is obviated by an inclusive index. There is a bibliography and a number of useful diagrammatic maps.

P. E. P.

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The Society's ambition is to make itself a real force in advancing geographical knowledge, and in disseminating information on the geography, resources and people of Canada. In short, its aim is to make Canada better known to Canadians and to the rest of the world.

As one of its major activities in carrying out its purpose, the Society publishes a monthly magazine, the Canadian Geographical Journal, which is devoted to every phase of geography—historical, physical and economic—first of Canada, then of the British Empire and of the other parts of the world in which Canada has special interest. It is the intention to publish articles in this magazine that will be popular in character, easily read, well illustrated and educational to the young, as well as informative to the adult.

The Canadian Geographical Journal will be sent to each member of the Society in good standing. Membership in the Society is open to any one interested in geographical matters. The annual fee for membership is three dollars in Canada.

The Society has no political or other sectional associations, and is responsible only to its members. All money received is used in producing the Canadian Geographical Journal and in carrying on such other activities for the advancement of geographical knowledge as funds of the Society may permit.

Mountain Cloud by MARIUS BARBEAU (The MacMillan Co. of Canada, Toronto, $4.00).

Marius Barbeau has won an international reputation as an authority on the manners and customs and folk-lore of the North American Indian. Much of this he has put into books and papers. Now he has tried an experiment. He has allowed his imagination to play about the facts and theories he has collected in many years of research, and the result is a particularly charming romance, the figures in which are fur-traders and Indians, and the scene that remote part of Canada through which the Alaska Highway has been built — the borderland between British Columbia and the Yukon. From a geographical point-of-view the story has definite value, because it describes the little-known country about the upper waters of the Liard and the Stikine, where the explorer Robert Campbell spent several momentous years before entering upon his discovery of the Yukon. Dr. Barbeau knows this country, as he knows the tribes that inhabit it, and he gives the reader intimate pictures of its mountains and rivers, its flora and fauna. The time of his story seems to be that of Robert Campbell's explorations, and one feels that he had Campbell and his associates, white and red, in mind when he wrote it. Glenlyon House, Terror Bridge on the Stikine, the West Coast chief Sheaks, and other names of men and places will be familiar to those who have read Campbell's journals. One hopes that this will not be the last of Dr. Barbeau's excursions into the field of fiction. There are many themes which, with his special knowledge and his command of admirable English, could be made the basis of entertaining romances.

L. J. B.

Netherlands America by PHILIP HANSON HISS (Duell, Sloan & Pearce, Inc., N.Y., $4.50).

This book occupies the pleasant ground between a travel book and a formal geography. It is rather too factual to fall into the first class, and the writer has so happy a faculty of embellishing the bare bones of his geography with what appears to be an authentic atmosphere of the places he describes that one hesitates to describe it as merely a geography. In any event, it is the sort of book which leaves one with the impression that the author knows his subject and knows how to lead his readers through the complex pattern of modern industry, age-old plantation economy and the primitive life of fishermen and forest dwellers which is characteristic of the Netherlands' possessions in America to-day. Curacoa, with its great modern oil refineries; the high and almost inaccessible plateau of Saba with its snug farmhouses in their tropical setting; Surinam with its bauxite deposits, the source of much of America's aluminum, its plantations and the secret life of its forests where

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bush Negroes, descendants of escaped slaves and native Indians, live remote from the struggles of their white overlords; the melange of races — Dutch, Negro, British Indians, Javanese and native Indians; all these are the raw materials for a book which will please and interest even the most jaded of arm-chair travellers. It is excellently illustrated with photographs by the author, who shows himself as skilful with the camera as with the pen. It has an index, a bibliography, an appendix with statistical tables and effective end maps.

P. E. P.

The Netherlands — Story of a Free People by HENDRIK RIEMENS (Collins, Toronto, Ontario, $5.50).

The Netherlands have, for centuries, maintained a tough fibred spirit of freedom that battled the mighty power of Spain, survived Napoleon's attempt to impose his version of a "new order" in Europe, and even at times was so provincial in character that the various cities and provinces could not combine for the protection of their own interests. There is an element of tragedy in the fact that this story of the Netherlands is written in a foreign language by an exile from a homeland that is now suffering under another "new order" imposed by a power even more cruel and ruthless than those who attacked its freedoms in the past.

Most readers will have a degree of familiarity with the history of the Netherlands in Europe — its long struggle against Spain, the golden age of the republic in the seventeenth century when broad-beamed burghers sent their broad-beamed ships to the most remote parts of the Far East, and built up the first industrialized economy in Europe. Less familiar, the story of the Netherlands in the East, where she fought the Arabs, the Portuguese and the British for the trade of the Spice Islands, is one of the most interesting sections of the book. Here the enterprise of her traders carved out one of the richest colonial empires in the world, which, in the more recent past, was being administered with some regard for the interests of the native population. It is interesting to recall her long trade relationship with Japan, where, for two hundred years, a little Dutch colony, segregated and closely guarded on an island in Nagaski Harbour, represented the island empire's only contact with the western world. The Dutch settlements at the Cape of Good Hope and in America, on the Hudson, in Surinam, and in the West Indies, are a scarcely less interesting phase of her colonial expansion. The latter now represent the only part of that great empire which is not overrun by an enemy.

Dr. Riemens skips somewhat lightly over the close trade relationship between the Netherlands and Germany during the last war, when the stoppage of leaks in the blockade through Holland was one of the gravest problems of the Allies; and as a loyal servant of his government he could scarcely question the stubborn independence which led her to neglect any plan for defence in co-operation with her neighbours during the early stages of the present war. All that, however, is water under the bridge, and Dr. Riemens can well be complimented on the excellent manner in which he has presented the long story of the Netherlands to English-speaking readers, particularly since he is using a language which is not his own.

P. E. P.

Canada After the War edited by ALEXANDER BRADY and F. R. SCOTT (The MacMillan Co. of Canada, Toronto, $3.25).

As the end of the war approaches, we are more and more occupied with the attempt to envisage the vague forms of future events beyond the screen of victory. We are given the assurance that "the world's great age begins anew, the golden years return"; that there will be work for every one, and the young, the old, the sick, and the unfortunate will be amply cared for by a beneficent government. We are not told in any definite manner how these great objectives are to be accomplished, nor whether the Federal Government has the authority to enact legislature to resolve all these problems. In any event the liens already placed on the income of the Dominion seem to be based on the assumption that wartime production, employment and income will be continued in peacetime. All these problems are discussed in the present volume by specialists in various phases of our social and economic life. The ten essays in the book vary widely in viewpoint and character. None of the authors has any cut-and-dried solution to offer, but rather the attempt is made to discuss each subject objectively, to show the experience of the past, and to scrutinize the measures which must be taken in order to implement the declaration of the four freedoms.

Without attempting to make any comparisons among the ten essays, which are all of a high order of excellence, the writer was particularly impressed with Professor F. R. Scott's analysis of our constitutional problems in chapter three and with Professor F. H. Soward's informative article on international relations. Other readers, and there should be many of them among the Canadians who are now looking toward the future, will find other sections which they may prefer. As a word of assurance, the reader should not be discouraged by meeting on the second line of the first page the word "prolegomena". He will be quite able to read the book without a dictionary at his elbow. As a matter of fact, it is clearly and cleanly written with a minimum of those pseudo-technical terms that so often mar a book of this character.

P. E. P.

Discharged, by ROBERT ENGLAND (The MacMillan Co., Toronto, $5.00).

A fully documented study of the civil re-establishment of the returned soldier. This book, too, was written before the passage of the bonus legislation, which materially alters the situation of the veterans of the present war.

P. E. P.